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=> d his

     (FILE 'HOME' ENTERED AT 14:02:28 ON 08 JUN 2005)

     FILE 'HCAPLUS' ENTERED AT 14:04:05 ON 08 JUN 2005
L1            1 US20040167356/PN OR (JP2003-386479# OR JP2003-46331#)/AP,PRN

     FILE 'REGISTRY' ENTERED AT 14:04:08 ON 08 JUN 2005

     FILE 'HCAPLUS' ENTERED AT 14:04:10 ON 08 JUN 2005
L2              TRA L1 1- RN :       18 TERMS

     FILE 'REGISTRY' ENTERED AT 14:04:10 ON 08 JUN 2005
L3           18 SEA L2

     FILE 'WPIX' ENTERED AT 14:04:11 ON 08 JUN 2005
L4            1 US20040167356/PN OR (JP2003-386479# OR JP2003-46331#)/AP,PRN

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FILE COVERS 1907 - 8 Jun 2005  VOL 142 ISS 24
FILE LAST UPDATED: 7 Jun 2005  (20050607/ED)

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> d iall l1 tot

L1   ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         2004:700284  HCAPLUS
DOCUMENT NUMBER:          141:207379
ENTRY DATE:               Entered STN:  27 Aug 2004
TITLE:                    Asymmetric phosphinoselenoic chloride and method for
                          producing the same
INVENTOR(S):              Murai, Toshiaki; Kimura, Tsutomu
PATENT ASSIGNEE(S):       President of Gifu University, Japan
SOURCE:                   Eur. Pat. Appl., 10 pp.
                          CODEN: EPXXDW
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
INT. PATENT CLASSIF.:
            MAIN:         C07F009-00
CLASSIFICATION:           29-7 (Organometallic and Organometalloidal Compounds)
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
     EP 1449845            A2    20040825    EP 2004-3888            20040220 <--
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     EP 1449845           A3    20040908
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     JP 2004277408        A2    20041007    JP 2003-386479          20031117 <--
     US 2004167356        A1    20040826    US 2004-785517          20040224 <--
PRIORITY APPLN. INFO.:                      JP 2003-46331        A  20030224 <--
                                            JP 2003-386479       A  20031117 <--

PATENT CLASSIFICATION CODES:
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
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 EP 1449845       ICM    C07F009-00
 JP 2004277408    FTERM  4H050/AA02; 4H050/AB84; 4H050/BE90; 4H050/WA15;
                         4H050/WA26; 4H050/WA29                          <--
 US 2004167356    NCL    562/808.000                                     <--
OTHER SOURCE(S):          CASREACT 141:207379; MARPAT 141:207379
ABSTRACT:
The preparation of asym. phosphinoselenoic chlorides, ArP(:Se)(Cl)(R) (Ar = aryl
group, R = aryl group, alkyl group having 3 or more carbon atoms, or alkoxy
group) via reaction of ArPCl2 with Grignard or lithium reagent in presence of
Se in THF is described.  The asym. phosphinoselenoic chloride is a novel compound
and is useful as synthetic raw materials, agricultural chems., pharmaceutical
products and the like.  Thus, reaction of PhPCl2 with isopropylmagnesium
chloride in presence of Se in THF gave 91% PhP(:Se)(Cl)(CHMe2).

SUPPL. TERM:        asym phosphinoselenoic chloride prepn; dihalophenylphosphine
                    alkylation Grignard lithium reagent
INDEX TERM:         Alkylation
                    Grignard reaction
                       (preparation of asym. phosphinoselenoic chloride via
                       alkylation of dihalophenylphosphine with Grignard or
                       alkyllithium reagent)
INDEX TERM:         644-97-3, Dichlorophenylphosphine   677-22-5,
                    tert-Butylmagnesium chloride   873-77-8,
                    4-Chlorophenylmagnesium bromide   931-51-1,
                    Cyclohexylmagnesium chloride   1068-55-9, Isopropylmagnesium
                    chloride   2216-51-5, (-)-Menthol   7782-49-2, Selenium,
                    reactions   15366-08-2, sec-Butylmagnesium chloride
                    16750-63-3, 2-Methoxyphenylmagnesium bromide
                    ROLE: RCT (Reactant); RACT (Reactant or reagent)
                       (preparation of asym. phosphinoselenoic chloride via
                       alkylation of dihalophenylphosphine with Grignard or
                       alkyllithium reagent)
INDEX TERM:         146880-01-5P   742060-18-0P   742060-19-1P   742060-20-4P
                    742060-21-5P   742060-22-6P   742060-23-7P
                    ROLE: SPN (Synthetic preparation); PREP (Preparation)
                       (preparation of asym. phosphinoselenoic chloride via
                       alkylation of dihalophenylphosphine with Grignard or
                       alkyllithium reagent)
INDEX TERM:         108-88-3, Toluene, uses   109-99-9, THF, uses
                    ROLE: NUU (Other use, unclassified); USES (Uses)
                       (solvent; preparation of asym. phosphinoselenoic chloride via
                       alkylation of dihalophenylphosphine with Grignard or
                       alkyllithium reagent)


=> b reg
FILE 'REGISTRY' ENTERED AT 14:04:48 ON 08 JUN 2005
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STRUCTURE FILE UPDATES:    7 JUN 2005  HIGHEST RN 851848-50-5
DICTIONARY FILE UPDATES:   7 JUN 2005  HIGHEST RN 851848-50-5
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TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

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* *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
* *
****

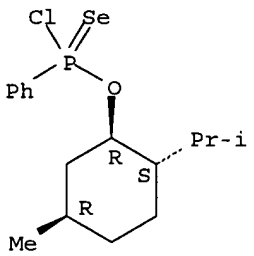
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d ide l3 tot

L3 ANSWER 1 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN **742060-23-7** REGISTRY
ED Entered STN: 10 Sep 2004
CN Phosphonochloridoselenoic acid, phenyl-, O-[(1R,2S,5R)-5-methyl-2-(1-methylethyl)cyclohexyl] ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C16 H24 Cl O P Se
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPATFULL

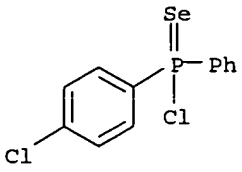
Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

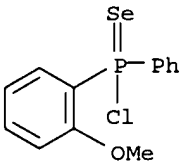
L3 ANSWER 2 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN **742060-22-6** REGISTRY
ED Entered STN: 10 Sep 2004
CN Phosphinoselenoic chloride, (4-chlorophenyl)phenyl- (9CI) (CA INDEX NAME)
MF C12 H9 Cl2 P Se
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 3 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN **742060-21-5** REGISTRY
ED Entered STN: 10 Sep 2004
CN Phosphinoselenoic chloride, (2-methoxyphenyl)phenyl- (9CI) (CA INDEX NAME)
MF C13 H12 Cl O P Se
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPATFULL



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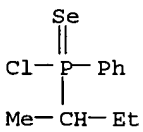
3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 4 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN **742060-20-4** REGISTRY
ED Entered STN: 10 Sep 2004
CN Phosphinoselenoic chloride, (1-methylpropyl)phenyl- (9CI) (CA INDEX NAME)
MF C10 H14 Cl P Se
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPATFULL

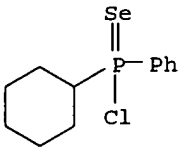


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 5 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN **742060-19-1** REGISTRY
ED Entered STN: 10 Sep 2004
CN Phosphinoselenoic chloride, cyclohexylphenyl- (9CI) (CA INDEX NAME)

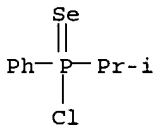
MF C12 H16 Cl P Se
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 6 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN **742060-18-0** REGISTRY
ED Entered STN: 10 Sep 2004
CN Phosphinoselenoic chloride, (1-methylethyl)phenyl- (9CI) (CA INDEX NAME)
MF C9 H12 Cl P Se
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPATFULL



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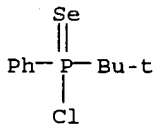
3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 7 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN **146880-01-5** REGISTRY
ED Entered STN: 08 Apr 1993
CN Phosphinoselenoic chloride, (1,1-dimethylethyl)phenyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Phosphinoselenoic chloride, (1,1-dimethylethyl)phenyl-, (±)-
MF C10 H14 Cl P Se
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPATFULL



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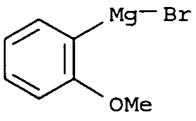
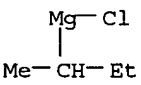
4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 8 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN 16750-63-3 REGISTRY
ED Entered STN: 16 Nov 1984
CN Magnesium, bromo(2-methoxyphenyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN (o-Methoxyphenyl)magnesium bromide (6CI)
CN Magnesium, bromo(o-methoxyphenyl)- (7CI, 8CI)
OTHER NAMES:
CN (2-Methoxyphenyl)magnesium bromide
CN (o-Anisyl)bromomagnesium
CN Bromo(2-methoxyphenyl)magnesium
CN Bromo(o-methoxyphenyl)magnesium
CN o-Anisylmagnesium bromide
MF C7 H7 Br Mg O
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CSCHEM, GMELIN*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)



207 REFERENCES IN FILE CA (1907 TO DATE)
210 REFERENCES IN FILE CAPLUS (1907 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 9 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN 15366-08-2 REGISTRY
ED Entered STN: 16 Nov 1984
CN Magnesium, chloro(1-methylpropyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Magnesium, sec-butylchloro- (7CI, 8CI)
OTHER NAMES:
CN 2-Butylmagnesium chloride
CN sec-Butylmagnesium chloride
DR 79722-38-6
MF C4 H9 Cl Mg
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, GMELIN*, IFICDB, IFIPAT, IFIUDB, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



131 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
132 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 10 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN 7782-49-2 REGISTRY
ED Entered STN: 16 Nov 1984
CN Selenium (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN C.I. 77805
DR 12640-29-8, 12640-30-1, 12641-96-2, 12733-65-2, 11125-23-8, 11133-88-3,

95788-45-7, 50954-17-1, 51882-60-1, 37256-19-2, 37258-85-8, 37276-15-6, 37368-02-8
MF Se
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

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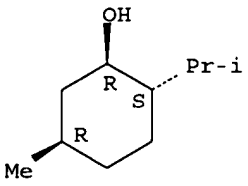
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

61941 REFERENCES IN FILE CA (1907 TO DATE)
2340 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
62007 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 11 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN 2216-51-5 REGISTRY
ED Entered STN: 16 Nov 1984
CN Cyclohexanol, 5-methyl-2-(1-methylethyl)-, (1R,2S,5R)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Cyclohexanol, 5-methyl-2-(1-methylethyl)-, [1R-(1α,2β,5α)]-
CN Menthol, (1R,3R,4S)-(-)- (8CI)
OTHER NAMES:
CN (-)-Menthol
CN (-)-Menthyl alcohol
CN (-)-trans-p-Methan-cis-3-ol
CN (1R)-(-)-Menthol
CN (1R,2S,5R)-(-)-Menthol
CN (R)-(-)-Menthol
CN 1R-Menthol
CN l-(-)-Menthol
CN l-Menthol
CN Levomenthol
CN NSC 62788
FS STEREOSEARCH
DR 98167-53-4
MF C10 H20 O
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DETHERM*, DIOGENES, DIPPR*, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MSDS-OHS, NAPRALERT, PROMT, PS, RTECS*, SPECINFO, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

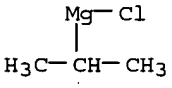
Absolute stereochemistry. Rotation (-).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3088 REFERENCES IN FILE CA (1907 TO DATE)
43 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3097 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 12 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN **1068-55-9** REGISTRY
ED Entered STN: 16 Nov 1984
CN Magnesium, chloro(1-methylethyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Isopropylmagnesium chloride (6CI)
CN Magnesium, chloroisopropyl- (7CI, 8CI)
OTHER NAMES:
CN 2-Propylmagnesium chloride
CN Chloroisopropylmagnesium
MF C3 H7 Cl Mg
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, GMELIN*, IFICDB, IFIPAT, IFIUDB, MSDS-OHS, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



955 REFERENCES IN FILE CA (1907 TO DATE)
7 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
961 REFERENCES IN FILE CAPLUS (1907 TO DATE)
11 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 13 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN **931-51-1** REGISTRY
ED Entered STN: 16 Nov 1984
CN Magnesium, chlorocyclohexyl- (7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Chlorocyclohexylmagnesium
CN Cyclohexylmagnesium chloride
MF C6 H11 Cl Mg
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, MSDS-OHS, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
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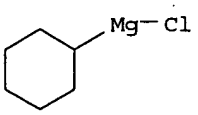
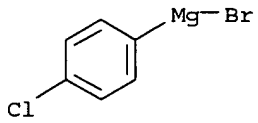


367 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
367 REFERENCES IN FILE CAPLUS (1907 TO DATE)
7 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 14 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN 873-77-8 REGISTRY
ED Entered STN: 16 Nov 1984
CN Magnesium, bromo(4-chlorophenyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Magnesium, bromo(p-chlorophenyl)- (8CI)
CN p-Chlorophenylmagnesium bromide (6CI)
OTHER NAMES:
CN (4-Chlorophenyl)magnesium bromide
CN Bromo(4-chlorophenyl)magnesium
MF C6 H4 Br Cl Mg
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, GMELIN*, IFICDB, IFIPAT, IFIUDB, PS, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



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349 REFERENCES IN FILE CAPLUS (1907 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 15 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN 677-22-5 REGISTRY
ED Entered STN: 16 Nov 1984
CN Magnesium, chloro(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Magnesium, tert-butylchloro- (7CI, 8CI)
CN tert-Butylmagnesium chloride (6CI)
OTHER NAMES:
CN (1,1-Dimethylethyl)magnesium chloride
CN t-Butylmagnesium chloride
CN tert-Butylchloromagnesium
DR 13264-19-2, 23151-51-1
MF C4 H9 Cl Mg
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, GMELIN*, IFICDB, IFIPAT, IFIUDB, PS, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)

t-Bu—Mg—Cl

752 REFERENCES IN FILE CA (1907 TO DATE)
8 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
755 REFERENCES IN FILE CAPLUS (1907 TO DATE)
18 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 16 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN **644-97-3** REGISTRY
ED Entered STN: 16 Nov 1984
CN Phosphonous dichloride, phenyl- (6CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Dichlorophenylphosphine
CN NSC 66478
CN Phenyl phosphorus dichloride
CN Phenyldichlorophosphine
CN Phenylphosphine dichloride
CN Phenylphosphinous dichloride
CN Phenylphosphonous acid dichloride
CN Phenylphosphonous dichloride
CN Phosphine, dichlorophenyl-
FS 3D CONCORD
MF C6 H5 Cl2 P
CI COM
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, DETHERM*, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, MSDS-OHS, RTECS*, SPECINFO, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1724 REFERENCES IN FILE CA (1907 TO DATE)
29 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1725 REFERENCES IN FILE CAPLUS (1907 TO DATE)
52 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

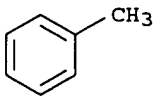
L3 ANSWER 17 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN **109-99-9** REGISTRY
ED Entered STN: 16 Nov 1984
CN Furan, tetrahydro- (7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Butane α,δ-oxide
CN Butane, 1,4-epoxy-
CN Cyclotetramethylene oxide
CN Furanidine
CN NSC 57858
CN Oxacyclopentane
CN Oxolane
CN Tetrahydrofuran
CN Tetramethylene oxide
CN THF
FS 3D CONCORD
DR 77392-70-2
MF C4 H8 O

CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

22433 REFERENCES IN FILE CA (1907 TO DATE)
813 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
22489 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 18 OF 18 REGISTRY COPYRIGHT 2005 ACS on STN
RN **108-88-3** REGISTRY
ED Entered STN: 16 Nov 1984
CN Benzene, methyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Toluene (8CI)
OTHER NAMES:
CN 1-Methylbenzene
CN Antisal 1a
CN CP 25
CN CP 25 (solvent)
CN Methacide
CN Methylbenzene
CN Methylbenzol
CN NSC 406333
CN Phenylmethane
CN Toluol
FS 3D CONCORD
MF C7 H8
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



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          81480 REFERENCES IN FILE CAPLUS (1907 TO DATE)
             24 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


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FILE 'WPIX' ENTERED AT 14:04:59 ON 08 JUN 2005
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FILE LAST UPDATED:          3 JUN 2005      <20050603/UP>
MOST RECENT DERWENT UPDATE:     200535        <200535/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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 http://www.stn-international.de/training_center/patents/stn_guide.pdf <<<

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    PLEASE CHECK:
http://thomsonderwent.com/support/dwpiref/reftools/classification/code-revision/
    FOR DETAILS. <<<

=> d iall l4 tot

L4   ANSWER 1 OF 1  WPIX  COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER:     2004-617632 [60]    WPIX
DOC. NO. CPI:         C2004-222359
TITLE:                New asymmetric phosphinoselenoic chloride useful as
                      sensitizer, as raw material for synthesis of various
                      compounds, for agricultural chemicals and pharmaceutical
                      products.
DERWENT CLASS:        B05 C01 E11
INVENTOR(S):          KIMURA, T; MURAI, T
PATENT ASSIGNEE(S):   (UYGI-N) UNIV GIFU; (KOKU-N) KOKURITSU DAIGAKU HOJIN GIFU
                      DAIGAKU
COUNTRY COUNT:        33
PATENT INFORMATION:

     PATENT NO       KIND DATE     WEEK    LA   PG MAIN IPC
     ------------------------------------------------------------
     EP 1449845       A2 20040825 (200460)* EN   10 C07F009-00
         R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV
            MC MK NL PT RO SE SI SK TR
     US 2004167356    A1 20040826 (200460)          C07F009-02<--
     JP 2004277408    A  20041007 (200466)       13 C07F009-50

APPLICATION DETAILS:

     PATENT NO       KIND                  APPLICATION         DATE
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EP 1449845	A2	EP 2004-3888	20040220	
US 2004167356	A1	US 2004-785517	20040224	
JP 2004277408	A	JP 2003-386479	20031117	<--

PRIORITY APPLN. INFO: **JP 2003-386479**
20031117; JP 2003-46331
20030224
INT. PATENT CLASSIF.:
MAIN: C07F009-00; C07F009-02; C07F009-50
BASIC ABSTRACT:
EP 1449845 A UPAB: 20040920
NOVELTY - Asymmetric phosphinoselenoic chloride is new.
DETAILED DESCRIPTION - Asymmetric phosphinoselenoic chloride of formula Ar-P(=Se)(Cl)-R (I) is new.
Ar = aryl; and
R = aryl, alkyl having at least 3C or alkoxy.
An INDEPENDENT CLAIM is included for preparation of (I).
USE - As a sensitizer; as raw material for synthesis of various compounds; for agricultural chemicals and pharmaceutical products.
ADVANTAGE - The asymmetric phosphinoselenoic chloride has excellent stability in air and with physiological activity and thus can be used for agricultural chemicals and pharmaceutical products. Preparation of asymmetric phosphinoselenoic chloride does not require catalyst and is produced easily and at high yield and selectivity by merely mixing the reactants. The solvent such as THF or toluene does not inhibit the reactions.
Dwg.0/0
FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: B05-B01D; C05-B01D; E05-G03A

=> b home
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=>

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=> d his

     (FILE 'HOME' ENTERED AT 14:02:28 ON 08 JUN 2005)

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L1             1 US20040167356/PN OR (JP2003-386479# OR JP2003-46331#)/AP,PRN

     FILE 'REGISTRY' ENTERED AT 14:04:08 ON 08 JUN 2005

     FILE 'HCAPLUS' ENTERED AT 14:04:10 ON 08 JUN 2005
L2               TRA L1 1- RN :        18 TERMS

     FILE 'REGISTRY' ENTERED AT 14:04:10 ON 08 JUN 2005
L3            18 SEA L2

     FILE 'WPIX' ENTERED AT 14:04:11 ON 08 JUN 2005
L4             1 US20040167356/PN OR (JP2003-386479# OR JP2003-46331#)/AP,PRN

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L5               STR
L6             0 L5
L7            14 L5 FULL
                 SAV TEM L7 NWAO517F0/A

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L8            28 L7
L9            10 L7 (L) PREP+NT/RL

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L10            1 L7
                 SEL AN
                 EDIT E1 /AN /OREF

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L11            2 E1
L12           28 L8 OR L11
L13           18 L12 NOT L9
                 E MURAI T/AU
L14           74 E3
                 E MURAI TOSHIAKI/AU
L15          141 E3
                 E KIMURA T.AU
                 E KIMURA T/AU
L16         1055 E3-6
                 E KIMURA TSUTOMO/AU
L17          108 E3-4
L18        16682 GIFU/CS,PA
L19            4 (L9 OR L13) AND L14-18
L20           24 (L9 OR L13) NOT L19
L21            6 L20 AND L9
L22           18 L20 NOT L21

=> b reg
FILE 'REGISTRY' ENTERED AT 14:22:36 ON 08 JUN 2005
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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES:    7 JUN 2005  HIGHEST RN 851848-50-5
DICTIONARY FILE UPDATES:   7 JUN 2005  HIGHEST RN 851848-50-5

New CAS Information Use Policies, enter HELP USAGETERMS for details.
```

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

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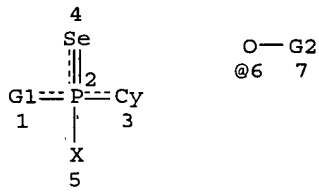
****
* *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
* *
****

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d que sta l7
L5 STR



VAR G1=AK/CY/6/OH
VAR G2=AK/CY
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE
L7 14 SEA FILE=REGISTRY SSS FUL L5

100.0% PROCESSED 376 ITERATIONS 14 ANSWERS
SEARCH TIME: 00.00.01

=> b hcap
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FILE COVERS 1907 - 8 Jun 2005 VOL 142 ISS 24
FILE LAST UPDATED: 7 Jun 2005 (20050607/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all fhitstr l19 tot

L19 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:8873 HCAPLUS
DN 142:240513
ED Entered STN: 06 Jan 2005
TI P-Chiral Phosphinoselenoic Chlorides and Phosphinochalcogenoselenoic Acid Esters: Synthesis, Characterization, and Conformational Studies
AU **Kimura, Tsutomu; Murai, Toshiaki**
CS Department of Chemistry, Faculty of Engineering, **Gifu** University, **Gifu**, 501-1193, Japan
SO Journal of Organic Chemistry (2005), 70(3), 952-959
CODEN: JOCEAH; ISSN: 0022-3263
PB American Chemical Society
DT Journal
LA English
CC 29-7 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 22, 75
AB Phosphinoselenoic chlorides bearing two different organic substituents at phosphorus were prepared by partial alkylation or arylation of phenyldichlorophosphine in the presence of elemental selenium; phosphinoselenoic esters, thio- and selenoesters were also prepared Alkylation of PhPCl2 by RMgX in the presence of Se afforded PhRP(Se)Cl (1a-g; R = iPr, cyclohexyl, s-Bu, tBu, 2-MeOC6H4, 4-MeC6H4, 4-ClC6H4). Alkylation of PCl3 subsequent treatment with tBuMgCl and R1MgX in the presence of Se gave dialkyl derivs. tBuR1P(Se)Cl (1h,i; R = iPr, cyclohexyl). The structure of the chloride 1b (R = Cy) was determined by x-ray crystallog. Reaction of 1a,b,d with nucleophiles R2EM (E = O, S, Se; M = Na, Li) afforded esters PhRP(Se)(OR2) (2a,b; R = Cy, tBu; R2 = Et), thioesters PhRP(Se)(SR2) (3a-d; R = tBu, iPr; R2 = Bu, Ph, Me3SiCH2CH2) and selenoesters PhRP(Se)(SeR2) (4a-c; R = tBu, R2 = Bu, tBu, Ph). Selenoesters PhRP(E)SeR2 (8, 9; E = O, S; R2 = Me, Et, Bu) were prepared by reaction of 1a-d with NaOH and Na2S with subsequent treatment of the sodium salt with R2I. Crystal structure determination for esters showed that they adopted gauche conformations. The computational results supported the observed conformational preference. Natural bond orbital analyses of the model compds. showed that two types of nonbonding orbital interactions, nE' → σ*P=E and nE → σ*P-E', are important in these compds. Linear correlations were observed between the exptl. 77Se NMR chemical shifts or the coupling consts. of P-Se bonds in the esters and the calculated P-Se bond lengths of the model compds.
ST phosphorus unsym phosphinoselenoic chloride ester prepn alkylation arylation dichlorophenylphosphine; alkylation phosphorus trichloride unsym dialkylphosphinoselenoic chloride ester prepn; ester phosphorus acid phosphinoselenoic chiral racemic chloride prepn; crystal structure phenyl cyclohexyl butyl trimethylsilylethyl phosphinoselenoic chloride ester; mol structure phenyl cyclohexyl butyl trimethylsilylethyl phosphinoselenoic chloride ester
IT Density functional theory
(B3LYP; DFT B3LYP geometry, conformational energy and natural bond orbital anal. of phosphinoselenoic esters, thio- and selenoesters)
IT Conformation
Natural bond orbital
(DFT B3LYP geometry, conformational energy and natural bond orbital anal. of phosphinoselenoic esters, thio- and selenoesters)
IT NMR (nuclear magnetic resonance)
(chemical shift, selenium-77; linear correlation of selenium-77 NMR chemical

shift and phosphorus-selenium bond length for phosphinoselenoic esters, thio- and selenoesters)

IT Phosphorus acids
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(esters; preparation of esters, thio- and selenoesters of unsym. alkyl-aryl phosphinoselenoic acids)

IT Linear free energy relationship
(linear correlation of selenium-77 NMR chemical shift and phosphorus-selenium bond length for phosphinoselenoic esters, thio- and selenoesters)

IT Crystal structure
Molecular structure
(of unsym. phenyl-alkyl phosphinoselenoic chlorides and thio- and selenoesters)

IT Phosphorus acids
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(phosphinoselenoic chlorides; preparation of unsym. alkyl-aryl phosphinoselenoic chlorides and nucleophilic substitution to give esters, thio- and selenoesters)

IT Bond length
(phosphorus-selenium; DFT B3LYP calcn. of phosphorus-selenium bond length for phosphinoselenoic esters, thio- and selenoesters and linear correlation with selenium-77 NMR chemical shift)

IT Alkylation
Arylation
(preparation of esters, thio- and selenoesters of unsym. alkyl-aryl phosphinoselenoic acids)

IT Esters, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(selenoesters; preparation of esters, thio- and selenoesters of unsym. alkyl-aryl phosphinoselenoic acids)

IT Esters, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(thio, phosphinoselenoic; preparation of esters, thio- and selenoesters of unsym. alkyl-aryl phosphinoselenoic acids)

IT 844701-52-6 844701-53-7 844701-54-8 844701-55-9 844701-56-0
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); FORM (Formation, nonpreparative); PROC (Process)
(DFT B3LYP geometry, conformational energy and natural bond orbital anal. of phosphinoselenoic esters, thio- and selenoesters)

IT 644-97-3, Dichlorophenylphosphine
RL: RCT (Reactant); RACT (Reactant or reagent)
(alkylation, arylation; preparation of esters, thio- and selenoesters of unsym. alkyl-aryl phosphinoselenoic acids)

IT **742060-19-1P**
RL: PRP (Properties); RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(crystal structure, esterification; preparation of esters, thio- and selenoesters of unsym. alkyl-aryl phosphinoselenoic acids)

IT 486429-70-3P 844701-49-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(crystal structure; preparation of esters, thio- and selenoesters of unsym. alkyl-aryl phosphinoselenoic acids)

IT **146880-01-5P 742060-18-0P**
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(esterification; preparation of esters, thio- and selenoesters of unsym. alkyl-aryl phosphinoselenoic acids)

IT 108-98-5, Benzenethiol, reactions 109-79-5, 1-Butanethiol 18143-30-1, 2-Trimethylsilylethanethiol
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphinylation; preparation of esters, thio- and selenoesters of unsym. alkyl-aryl phosphinoselenoic acids)

IT 677-22-5, tert-Butylmagnesium chloride 873-77-8, (4-

Chlorophenyl)magnesium bromide 931-51-1, Cyclohexylmagnesium chloride 1068-55-9, Isopropylmagnesium chloride 4294-57-9, (4-Methylphenyl)magnesium bromide 15366-08-2, sec-Butylmagnesium chloride 16750-63-3, (2-Methoxyphenyl)magnesium bromide
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of esters, thio- and selenoesters of unsym. alkyl-aryl phosphinoselenoic acids)

IT 39487-12-2P 113502-18-4P 486429-74-7P **742060-20-4P** **742060-21-5P** **742060-22-6P** **749255-95-6P** 844701-40-2P **844701-41-3P** 844701-42-4P 844701-43-5P 844701-44-6P 844701-45-7P 844701-46-8P 844701-47-9P 844701-48-0P 844701-50-4P 844701-51-5P
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of esters, thio- and selenoesters of unsym. alkyl-aryl phosphinoselenoic acids)

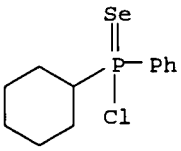
RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Au-Yeung, T; Tetrahedron Lett 2001, V42, P453 HCAPLUS
(2) Bayandina, E; Zh Obshch Khim 1976, V46, P288 HCAPLUS
(3) Bayandina, E; Zh Obshch Khim 1978, V48, P2673 HCAPLUS
(4) Becke, A; J Chem Phys 1993, V98, P5648 HCAPLUS
(5) Boese, R; Chem -Ztg 1985, V109, P233 HCAPLUS
(6) Davies, R; Inorg Chem 2002, V41, P348 HCAPLUS
(7) Frisch, M; Gaussian 98, revision A 7 1998
(8) Horner, L; Phosphorus Sulfur 1978, V4, P155 HCAPLUS
(9) Kardanov, N; Izv Akad Nauk SSSR, Ser Khim 1984, V5, P1052
(10) Kawashima, T; Chem Lett 1989, P849 HCAPLUS
(11) Kawashima, T; Heteroat Chem 1995, V6, P235 HCAPLUS
(12) Kimura, T; Chem Lett 2004, P878 HCAPLUS
(13) Krawiecka, B; Heteroat Chem 1992, V3, P385 HCAPLUS
(14) Krawiecka, B; J Org Chem 1986, V51, P4201 HCAPLUS
(15) Kuchen, W; Chem Ber 1966, V99, P1663 HCAPLUS
(16) Lepicard, G; Acta Crystallogr, Sect B 1969, V25, P617 HCAPLUS
(17) Murai, T; Chem Lett 2002, P914 HCAPLUS
(18) Nuretdinov, I; Zh Obshch Khim 1978, V48, P1073 HCAPLUS
(19) Nuretdinov, I; Zh Obshch Khim 1978, V48, P547 HCAPLUS
(20) Omelanczuk, J; J Chem Soc, Chem Commun 1994, P2223 HCAPLUS
(21) Thompson, D; J Org Chem 1988, V53, P2109 HCAPLUS

IT **742060-19-1P**
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**; **PREP (Preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(crystal structure, esterification; preparation of esters, thio- and selenoesters of unsym. alkyl-aryl phosphinoselenoic acids)

RN 742060-19-1 HCAPLUS
CN Phosphinoselenoic chloride, cyclohexylphenyl- (9CI) (CA INDEX NAME)



L19 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:700284 HCAPLUS
DN 141:207379
ED Entered STN: 27 Aug 2004
TI Asymmetric phosphinoselenoic chloride and method for producing the same
IN **Murai, Toshiaki**; **Kimura, Tsutomu**
PA President of **Gifu** University, Japan
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW

DT Patent
LA English
IC ICM C07F009-00
CC 29-7 (Organometallic and Organometalloidal Compounds)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1449845	A2	20040825	EP 2004-3888	20040220
	EP 1449845	A3	20040908		
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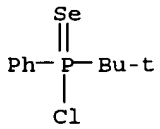
	JP 2004277408	A2	20041007	JP 2003-386479	20031117
	US 2004167356	A1	20040826	US 2004-785517	20040224
PRAI	JP 2003-46331	A	20030224		
	JP 2003-386479	A	20031117		

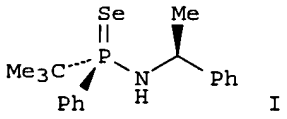
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1449845	ICM	C07F009-00
JP 2004277408	FTERM	4H050/AA02; 4H050/AB84; 4H050/BE90; 4H050/WA15; 4H050/WA26; 4H050/WA29
US 2004167356	NCL	562/808.000

OS CASREACT 141:207379; MARPAT 141:207379
AB The preparation of asym. phosphinoselenoic chlorides, ArP(:Se)(Cl)(R) (Ar = aryl group, R = aryl group, alkyl group having 3 or more carbon atoms, or alkoxy group) via reaction of ArPCl2 with Grignard or lithium reagent in presence of Se in THF is described. The asym. phosphinoselenoic chloride is a novel compound and is useful as synthetic raw materials, agricultural chems., pharmaceutical products and the like. Thus, reaction of PhPCl2 with isopropylmagnesium chloride in presence of Se in THF gave 91% PhP(:Se)(Cl)(CHMe2).
ST asym phosphinoselenoic chloride prepn; dihalophenylphosphine alkylation Grignard lithium reagent
IT Alkylation
Grignard reaction
(preparation of asym. phosphinoselenoic chloride via alkylation of dihalophenylphosphine with Grignard or alkyllithium reagent)
IT 644-97-3, Dichlorophenylphosphine 677-22-5, tert-Butylmagnesium chloride 873-77-8, 4-Chlorophenylmagnesium bromide 931-51-1, Cyclohexylmagnesium chloride 1068-55-9, Isopropylmagnesium chloride 2216-51-5, (-)-Menthol 7782-49-2, Selenium, reactions 15366-08-2, sec-Butylmagnesium chloride 16750-63-3, 2-Methoxyphenylmagnesium bromide
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of asym. phosphinoselenoic chloride via alkylation of dihalophenylphosphine with Grignard or alkyllithium reagent)
IT **146880-01-5P 742060-18-0P 742060-19-1P 742060-20-4P 742060-21-5P 742060-22-6P 742060-23-7P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of asym. phosphinoselenoic chloride via alkylation of dihalophenylphosphine with Grignard or alkyllithium reagent)
IT 108-88-3, Toluene, uses 109-99-9, THF, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; preparation of asym. phosphinoselenoic chloride via alkylation of dihalophenylphosphine with Grignard or alkyllithium reagent)
IT **146880-01-5P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of asym. phosphinoselenoic chloride via alkylation of dihalophenylphosphine with Grignard or alkyllithium reagent)
RN 146880-01-5 HCAPLUS
CN Phosphinoselenoic chloride, (1,1-dimethylethyl)phenyl- (9CI) (CA INDEX NAME)



L19 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:586266 HCAPLUS
DN 141:243633
ED Entered STN: 22 Jul 2004
TI P-Chiral phosphinoselenoic chlorides and optically active P-chiral phosphinoselenoic amides: Synthesis and stereospecific interconversion with extrusion and addition reactions of the selenium atom
AU **Kimura, Tsutomu; Murai, Toshiaki**
CS Department of Chemistry, Faculty of Engineering, **Gifu** University, **Gifu**, 501-1193, Japan
SO Chemistry Letters (2004), 33(7), 878-879
CODEN: CMLTAG; ISSN: 0366-7022
PB Chemical Society of Japan
DT Journal
LA English
CC 29-7 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 75
OS CASREACT 141:243633
GI



I

AB An efficient synthesis of P-chiral phosphinoselenoic chlorides and the first optically active P-chiral phosphinoselenoic amides was successfully achieved. E.g., reaction of PhPCl2, Se and iPrMgCl/THF at 0° gave P-chiral phosphinoselenoic chlorides, PhP(Se)(Cl)(iPr) in 91% yield; PhP(Se)(Cl)(tBu) reacted with lithiated (S)-1-phenylethylamine/THF at 0° to give (RP,S)- and (SP,S)-(tBu)P(Se)(Ph)(NHCHMePh) (I) in 34% and 51% yields, resp. (RP,S)-I was characterized by x-ray crystallog. Stereospecific interconversion with the extrusion of Se atom from optically active phosphinoselenoic amides, e.g., I, and the addition of Se atom to optically active aminophosphines were also studied.
ST phosphinoselenoic chloride chiral prepn amidation lithium amide; chiral phosphinoselenoic amide prepn crystal mol structure extrusion selenium
IT Phosphines
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(aminophosphines; stereospecific conversion of P-chiral phosphinoselenoic chlorides to optically active P-chiral phosphinoselenoic amides and subsequent extrusion and addition of the selenium atom)
IT Crystal structure
Molecular structure
(of optically active P-chiral phosphinoselenoic amide)
IT Amidation
(reaction of phosphinoselenoic chlorides with lithium amides to give phosphinoselenoic amides)
IT Addition reaction
Asymmetric synthesis and induction
Extrusion, nonbiological

(stereospecific conversion of P-chiral phosphinoselenoic chlorides to optically active P-chiral phosphinoselenoic amides and subsequent extrusion and addition of the selenium atom)

IT Amides, preparation
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(stereospecific conversion of P-chiral phosphinoselenoic chlorides to optically active P-chiral phosphinoselenoic amides and subsequent extrusion and addition of the selenium atom)

IT 749255-98-9P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(crystal structure; stereospecific conversion of P-chiral phosphinoselenoic chlorides to optically active P-chiral phosphinoselenoic amides and subsequent extrusion and addition of the selenium atom)

IT 220812-74-8P 220812-79-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and extrusion and addition of the selenium atom of optically active P-chiral phosphinoselenoic amides and subsequent)

IT **146880-01-5P 742060-18-0P 742060-19-1P**
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation and stereospecific conversion of phosphinoselenoic chlorides to optically active P-chiral phosphinoselenoic amides)

IT 644-97-3, Phenyldichlorophosphine 677-22-5, tert-Butylmagnesium chloride 696-61-7, p-Methoxyphenylmagnesium chloride 931-51-1, Cyclohexylmagnesium chloride 1068-55-9, Isopropylmagnesium chloride 7782-49-2, Selenium, reactions 51833-36-4, p-Chlorophenylmagnesium chloride 68516-52-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of phenyldichlorophosphine, selenium and Grignard reagent to give phosphinoselenoic chlorides and subsequently its phosphinoselenoic amide derivative)

IT **742060-21-5P 742060-22-6P 749255-95-6P**
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(reaction of phenyldichlorophosphine, selenium and Grignard reagent to give phosphinoselenoic chlorides and subsequently phosphinoselenoic amide)

IT 2627-86-3 10420-89-0 17430-98-7 20752-47-0 253430-16-9 749875-36-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of phosphinoselenoic chlorides with lithium amides to give phosphinoselenoic amides)

IT 749255-96-7P 749255-97-8P 749255-99-0P 749256-00-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(stereospecific conversion of P-chiral phosphinoselenoic chlorides to optically active P-chiral phosphinoselenoic amides)

IT 749256-01-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(stereospecific conversion of P-chiral phosphinoselenoic chlorides to optically active P-chiral phosphinoselenoic amides and subsequent extrusion and addition of the selenium atom)

IT 998-40-3, Tributylphosphine
RL: RGT (Reagent); RACT (Reactant or reagent)
(stereospecific interconversion phosphinoselenoic amides with extrusion and addition reactions of the selenium atom)

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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(3) Anon; deposit@ccdc.cam.ac.uk
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(15) Murai, T; Chem Lett V2002, P914
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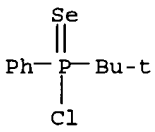
(17) Omelanczuk, J; Heteroat Chem 1992, V3, P403 HCAPLUS
(18) Pietrusiewicz, K; Chem Rev 1994, V94, P1375 HCAPLUS
(19) Shi, M; Tetrahedron: Asymmetry 2000, V11, P835 HCAPLUS

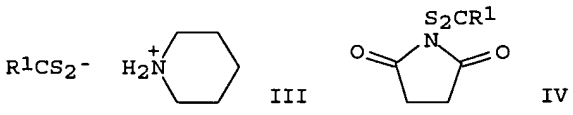
IT **146880-01-5P**
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**;
PREP (Preparation); RACT (Reactant or reagent)
(preparation and stereospecific conversion of phosphinoselenoic chlorides to optically active P-chiral phosphinoselenoic amides)

RN 146880-01-5 HCAPLUS

CN Phosphinoselenoic chloride, (1,1-dimethylethyl)phenyl- (9CI) (CA INDEX NAME)



L19 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:454162 HCAPLUS
DN 103:54162
ED Entered STN: 24 Aug 1985
TI Preparation and some reactions of thioacyl diphenylthiophosphinoyl and thioacyl diphenylphosphino sulfides
AU Kato, Shinzi; Goto, Masahisa; Hattori, Rikizoh; Nishiwaki, Kohichi; Mizuta, Masateru; Ishida, Masaru
CS Fac. Eng., **Gifu** Univ., Yanagido, 501-11, Japan
SO Chemische Berichte (1985), 118(4), 1668-83
CODEN: CHBEAM; ISSN: 0009-2940
DT Journal
LA English
CC 29-7 (Organometallic and Organometalloidal Compounds)
OS CASREACT 103:54162
GI



III IV

AB RCS2P(X)Ph2 (I; R = Ph, 4-tolyl, 4-MeOC6H4, mesityl, 1-naphthyl; X = S, Se) were prepared in 45-80% yields by treating RCS2M (M = Na, Cs, Li) with Ph2P(X)Cl. I are useful thioacylating agents under mild conditions. R1CS2PPh2 (II; R1 = Et, 4-tolyl, 4-ClC6H4, 4-MeOC6H4) were prepared in 22-93% yields by treating piperidinium dithiocarboxylates III with Ph2PCl. Reaction of II with N-chlorosuccinimide gave 7-19% N-(thioacylthio)succinimides IV.

ST sulfide thioacyl thiophosphinoyl selenophosphinoyl; phosphino thioacyl sulfide; thioacylation thioacyl sulfide

IT Acylation
(thio-, thioacyl diphenylthiophosphinoyl and -selenophosphinoyl sulfides for)

IT 74-96-4 108-86-1, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(Grignard reaction of, with methylthiobenzoic diphenylthiophosphinic thioanhydride)

IT 603-35-0P, preparation
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, from reaction of thioacyl diphenylphosphine sulfides with phenyllithium)

IT 5827-17-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with Me iodide)

IT 97270-46-7P 97270-47-8P 97270-48-9P 97270-49-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with chlorosuccinimide)

IT **55249-23-5P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(preparation and reaction of, with dithiobenzoates)

IT 97270-52-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and thioacylation by)

IT 1101-41-3P 1636-15-3P 3481-62-7P 5873-93-8P 5977-80-0P
5977-87-7P 15288-70-7P 17534-85-9P 20199-06-8P 20710-49-0P
20710-50-3P 20710-51-4P 20849-31-4P 21007-46-5P 26028-04-6P
34736-44-2P 38194-90-0P 42967-62-4P 52322-79-9P 53724-35-9P
53724-39-3P 53724-40-6P 54300-29-7P 60732-07-2P 63385-22-8P
70869-19-1P 74670-37-4P 79253-84-2P 80031-12-5P 80031-13-6P
80031-14-7P 80031-18-1P 97270-38-7P 97270-39-8P 97270-40-1P
97270-41-2P 97270-42-3P 97270-43-4P 97270-44-5P 97270-45-6P
97270-50-3P 97270-51-4P 97270-53-6P 97270-54-7P 97270-55-8P
97270-57-0P 97270-58-1P 97270-59-2P 97270-60-5P 97270-61-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 39969-91-0 42967-76-0 42967-78-2 50684-41-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with chlorodiphenylphosphine)

IT 16940-66-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with di-Ph diselenide and ditelluride)

IT 5109-05-7 68340-47-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with di-Ph selenophosphinoyl chloride)

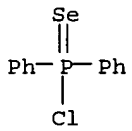
IT 7782-49-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with diphenylphosphinous chloride)

IT 53724-36-0 74670-56-7 74670-58-9 74670-60-3 97270-56-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with diphenylthiophosphinoyl chloride)

IT 1015-37-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dithiobenzoates)

IT 62-53-3, reactions 106-49-0, reactions 108-91-8, reactions 109-72-8, reactions 109-89-7, reactions 110-89-4, reactions 122-39-4, reactions 124-41-4 139-02-6 141-52-6 591-51-5 865-47-4 917-54-4 930-69-8 23974-72-3 30383-01-8 41422-67-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with methylthiobenzoic diphenylthiophosphinic thioanhydride)

IT 1079-66-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with selenium)
IT 70-11-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with sodium methyldithiobenzoate)
IT 1666-13-3 32294-60-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with sodium tetrahydroborate)
IT 128-09-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with thioacyl diphenylphosphinyl sulfide)
IT 1068-74-2 10026-07-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with thioacyl diphenylphosphinyl sulfide derivative)
IT **55249-23-5P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(preparation and reaction of, with dithiobenzoates)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



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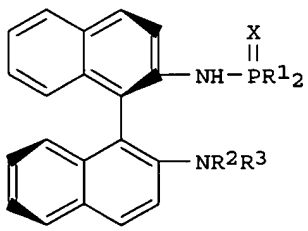
L22 ANSWER 1 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:959890 HCAPLUS
DN 142:74661
ED Entered STN: 11 Nov 2004
TI Enantioselective conjugate addition of dialkylzinc and diphenylzinc to enones catalyzed by a chiral copper(I) binaphthylthiophosphoramide or binaphthylselenophosphoramide ligand system
AU Shi, Min; Wang, Chun-Jiang; Zhang, Wen
CS State Key Laboratory of Organometallic Chemistry Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai, 200032, Peop. Rep. China
SO Chemistry--A European Journal (2004), 10(21), 5507-5516
CODEN: CEUJED; ISSN: 0947-6539
PB Wiley-VCH Verlag GmbH & Co. KGaA
DT Journal
LA English
CC 29-7 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 24
GI



I

AB Chiral bidentate N,S-ligands I were prepared and examined in copper-catalyzed asym. conjugate addition of dialkylzinc to α,β-unsatd. ketones. Ligands I (1-7; L1-L7; X = S; 1, R1 = Me, R2 = R3 = H; 2, R1 = Me, R2 = H, R3 = Et; 3, R1 = Ph, R2 = R3 = H; 4, R1 = Ph, R2 = H, R3 = Et; 5, R1 = Ph, R2 = R3 = Me; 6, R1 = OEt, R2 = R3 = H; 7, R1 = OEt, R2 = H, R3 = Et) were prepared by lithiation of the corresponding 1,1'-binaphthyl-2,2'-diamine followed by phosphorylation by R12P(S)Cl. The asym. conjugate addition of R42Zn (R4 = Me, Et, Ph) dialkylzinc or diphenylzinc to 2-cyclohexenone, 2-cycloheptenone and 2-cyclopentenone was catalyzed by a copper(I) complex in the presence of L1-L7 at temperature 20° or 0°, affording the Michael adducts in high yields with excellent ee. Acyclic enones R5COCH:CHR6 (R5, R6 = aryl, alkyl) also gave excellent chemical yields and enantioselectivities in addition of Et2Zn. Ligand L9 (shown as I, X = Se, R1 = Ph, R2 = H, R3 = Et) showed analogous activity and enantioselectivity, being stable and recoverable, whereas L8 (X = O) was non-enantioselective. The mechanism of this asym. conjugate addition system is discussed. The presence of NH-proton of phosphoramide in these chiral ligands play a significant role in the formation of the active species, since N-methylated analog L2 showed no enantioselectivity.

ST binaphthyl bidentate chiral nitrogen sulfur ligand phosphorothioic amide prepn; thiophosphorylated selenophosphorylated binaphthalenediamine chiral bidentate ligand prepn; binaphthalenediamine thiophosphorylation selenophosphorylation bidentate chiral ligand diethylzinc conjugate addn; ketone unsatd conjugate addn diethylzinc thiophosphorylated binaphthalenediamine copper catalyst; Michael addn asym unsatd ketone thiophosphoryl binaphthalenediamine copper catalyst

IT Asymmetric synthesis and induction catalysts
(Michael addition; preparation of axial-chiral phosphorylated binaphthalenediamines as N,S- and N,Se- bidentate ligands for asym. Michael addition of dialkylzinc to unsatd. ketones)

IT Ligands
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(chiral, axial-chiral; preparation of axial-chiral phosphorylated binaphthalenediamines as N,S- and N,Se- bidentate ligands for asym. Michael addition of dialkylzinc to unsatd. ketones)

IT Addition reaction
(conjugate, stereoselective; asym. Michael addition of dialkylzinc to α,β-unsatd. ketones catalyzed by axial-chiral phosphorylated binaphthalenediamine-copper complexes)

IT Amines, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(diamines, axial-chiral; preparation of axial-chiral phosphorylated binaphthalenediamines as N,S- and N,Se- bidentate ligands for asym. Michael addition of dialkylzinc to unsatd. ketones)

IT Michael reaction catalysts
(stereoselective; asym. Michael addition of dialkylzinc to α,β-unsatd. ketones catalyzed by axial-chiral phosphorylated binaphthalenediamine-copper complexes)

IT Phosphorylation
(thiophosphorylation, selenophosphorylation; preparation of axial-chiral phosphorylated binaphthalenediamines as N,S- and N,Se- bidentate ligands for asym. Michael addition of dialkylzinc to unsatd. ketones)

IT Ketones, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(α,β-unsatd.; asym. Michael addition of dialkylzinc to α,β-unsatd. ketones catalyzed by axial-chiral phosphorylated binaphthalenediamine-copper complexes)

IT 993-12-4 1015-37-8 1499-21-4 2524-04-1 55249-23-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(amination; preparation of axial-chiral phosphorylated binaphthalenediamines as N,S- and N,Se- bidentate ligands for asym. Michael addition of dialkylzinc to unsatd. ketones)

IT 94-41-7 544-97-8, Dimethylzinc 930-30-3, 2-Cyclopentenone 930-68-7, 2-Cyclohexenone 959-23-9 959-33-1 1078-58-6, Diphenylzinc

1121-66-0, 2-Cycloheptenone 1669-44-9, 3-Octen-2-one 1774-66-9
2403-27-2 5166-53-0 6333-08-0 52094-89-0 812647-79-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(asym. conjugate addition; preparation of axial-chiral phosphorylated binaphthalenediamines as N,S- and N,Se- bidentate ligands for asym. Michael addition of dialkylzinc to unsatd. ketones)

IT 18741-85-0 93713-30-5 444759-10-8 587838-62-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphorylation; preparation of axial-chiral phosphorylated binaphthalenediamines as N,S- and N,Se- bidentate ligands for asym. Michael addition of dialkylzinc to unsatd. ketones)

IT 14057-91-1 15418-29-8 34946-82-2 42152-46-5
RL: CAT (Catalyst use); USES (Uses)
(preparation of axial-chiral phosphorylated binaphthalenediamines as N,S- and N,Se- bidentate ligands for asym. Michael addition of dialkylzinc to unsatd. ketones)

IT 272116-80-0P 587838-64-0P 587838-66-2P 587838-70-8P 587838-73-1P
587838-75-3P 587838-77-5P 587838-79-7P 813420-40-5P 813420-46-1P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of axial-chiral phosphorylated binaphthalenediamines as N,S- and N,Se- bidentate ligands for asym. Michael addition of dialkylzinc to unsatd. ketones)

IT 6137-10-6P 13368-65-5P 16460-86-9P 34993-51-6P 40238-09-3P
40238-79-7P 40238-92-4P 74006-73-8P 74006-74-9P 86505-42-2P
123559-92-2P 142809-75-4P 203312-05-4P 812647-76-0P 812647-77-1P
812647-78-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of axial-chiral phosphorylated binaphthalenediamines as N,S- and N,Se- bidentate ligands for asym. Michael addition of dialkylzinc to unsatd. ketones)

RE.CNT 94 THERE ARE 94 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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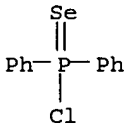
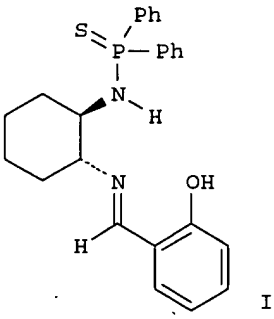
IT **55249-23-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(amination; preparation of axial-chiral phosphorylated binaphthalenediamines as N,S- and N,Se- bidentate ligands for asym. Michael addition of

dialkylzinc to unsatd. ketones)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



L22 ANSWER 2 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:1001947 HCAPLUS
DN 140:235457
ED Entered STN: 24 Dec 2003
TI Asymmetric 1,4-addition of diethylzinc to α,β-unsaturated enones catalyzed by chiral imino-thiophosphoramide ligands and copper(I)
AU Shi, Min; Zhang, Wen
CS Shanghai Institute of Organic Chemistry, State Key Laboratory of Organometallic Chemistry, Chinese Academy of Science, Shanghai, 200032, Peop. Rep. China
SO Tetrahedron: Asymmetry (2004), 15(1), 167-176
CODEN: TASYE3; ISSN: 0957-4166
PB Elsevier Science B.V.
DT Journal
LA English
CC 25-15 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 24
GI



I

AB In the presence of a catalytic amount of chiral imino-thiophosphoramide ligand I and Cu(I) salt, the asym. addition of diethylzinc to α,β-unsatd. carbonyl compds. could be achieved in good yields with moderate enantiomeric excess. A chiral imino-thiophosphoramide ligand system for this asym. 1,4-addition reaction has been explored.
ST cycloalkenone ethylzinc conjugate addn; ethylcycloalkanone asym prepn; copper conjugate addn catalyst; imino thiophosphoramide conjugate addn ligand
IT Addition reaction
(1,4-addition reaction, stereoselective; stereoselective preparation of ethylcycloalkanones and diphenylpentanone via copper-catalyzed asym. conjugate addition of diethylzinc to α,β-unsatd. enones)
IT Aldehydes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(aromatic; stereoselective preparation and ligand use of imino-thiophosphoramides via imination of chiral

aminocyclohexylthiophosphoramides with arylaldehydes)

IT Imination
(stereoselective preparation and ligand use of imino-thiophosphoramides via imination of chiral aminocyclohexylthiophosphoramides with arylaldehydes)

IT Imines
RL: SPN (Synthetic preparation); PREP (Preparation)
(stereoselective preparation and ligand use of imino-thiophosphoramides via imination of chiral aminocyclohexylthiophosphoramides with arylaldehydes)

IT Asymmetric synthesis and induction
(stereoselective preparation of ethylcycloalkanones and diphenylpentanone via copper-catalyzed asym. conjugate addition of diethylzinc to α,β-unsatd. enones)

IT Ketones, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(unsatd.; stereoselective preparation of ethylcycloalkanones and diphenylpentanone via copper-catalyzed asym. conjugate addition of diethylzinc to α,β-unsatd. enones)

IT 666702-49-4P 666702-55-2P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(stereoselective preparation and ligand use of imino-phosphoramide and -selenophosphoramide via phosphorylation of chiral cyclohexanediamine with phosphinic and selenophosphinic chlorides followed by imination with hydroxybenzaldehyde)

IT 1499-21-4, Diphenylphosphinic chloride 20439-47-8 **55249-23-5**, Diphenylselenophosphinic chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(stereoselective preparation and ligand use of imino-phosphoramide and -selenophosphoramide via phosphorylation of chiral cyclohexanediamine with phosphinic and selenophosphinic chlorides followed by imination with hydroxybenzaldehyde)

IT 666701-93-5P 666701-97-9P 666702-01-8P 666702-06-3P 666702-10-9P 666702-14-3P 666702-18-7P 666702-21-2P 666702-25-6P 666702-30-3P 666702-34-7P 666702-39-2P 666702-44-9P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(stereoselective preparation and ligand use of imino-thiophosphoramides via imination of chiral aminocyclohexylthiophosphoramides with arylaldehydes)

IT 66-77-3, 1-Naphthalenecarboxaldehyde 83-38-5, 2,6-Dichlorobenzaldehyde 90-02-8, 2-Hydroxybenzaldehyde, reactions 90-60-8, 3,5-Dichloro-2-hydroxybenzaldehyde 98-01-1, 2-Furancarboxaldehyde, reactions 100-52-7, Benzaldehyde, reactions 708-06-5, 2-Hydroxy-1-naphthalenecarboxaldehyde 1121-60-4, 2-Pyridinecarboxaldehyde 1761-61-1, 5-Bromo-2-hydroxybenzaldehyde 2725-53-3, 5-tert-Butyl-2-hydroxybenzaldehyde 6334-18-5, 2,3-Dichlorobenzaldehyde 37942-07-7, 3,5-Di-tert-butyl-2-hydroxybenzaldehyde 643009-78-3 666701-89-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(stereoselective preparation and ligand use of imino-thiophosphoramides via imination of chiral aminocyclohexylthiophosphoramides with arylaldehydes)

IT 14057-91-1, Tetrakis(acetonitrile)copper(I) perchlorate
RL: CAT (Catalyst use); USES (Uses)
(stereoselective preparation of ethylcycloalkanones and diphenylpentanone via copper-catalyzed asym. conjugate addition of diethylzinc to α,β-unsatd. enones)

IT 94-41-7, 1,3-Diphenylpropenone 557-20-0, Diethylzinc 930-30-3, 2-Cyclopentenone 930-68-7, 2-Cyclohexenone 1121-66-0, 2-Cycloheptenone
RL: RCT (Reactant); RACT (Reactant or reagent)
(stereoselective preparation of ethylcycloalkanones and diphenylpentanone via copper-catalyzed asym. conjugate addition of diethylzinc to α,β-unsatd. enones)

IT 16460-86-9P, (S)-1,3-Diphenyl-1-pentanone 74006-73-8P, (S)-3-Ethylcyclohexanone 74006-74-9P 86505-49-9P 201727-84-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(stereoselective preparation of ethylcycloalkanones and diphenylpentanone via copper-catalyzed asym. conjugate addition of diethylzinc to α,β-unsatd. enones)

RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD

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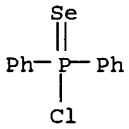
IT **55249-23-5**, Diphenylselenophosphinic chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(stereoselective preparation and ligand use of imino-phosphoramide and -selenophosphoramide via phosphorylation of chiral cyclohexanediamine with phosphinic and selenophosphinic chlorides followed by imination with hydroxybenzaldehyde)

RN 55249-23-5 HCAPLUS

CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



L22 ANSWER 3 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:98307 HCAPLUS
DN 136:349574
ED Entered STN: 06 Feb 2002
TI NQR spectroscopy of chloranhydrides of pentavalent phosphorus oxo-, thio-, and seleno-acids
AU Semin, G. K.; Tsvetkov, E. N.; Bryukhova, E. V.
CS Inst. Elementoorg. Soedinenii im. A. N. Nesmeyanova, Ross. Akad. Nauk, Moscow, Russia
SO Zhurnal Fizicheskoi Khimii (2001), 75(11), 1978-1982
CODEN: ZFKHA9; ISSN: 0044-4537
PB MAIK Nauka
DT Journal
LA Russian
CC 77-7 (Magnetic Phenomena)
AB Correlation equations was used to estimate the NQR frequency of the Cl atom bonded to the 4-coordinated P atom in compds. R1R2EPCl (E = O, S, Se) and [R1R2PCl2+]M-. The frequency increases in the series: P(O)Cl ≈ RO(S)PCl > P(S)Cl > P(Se)Cl ≥ PCl(ion). The Cl atom polarization affects the reactivity of the compds.
ST chlorine 35 NQR chloroanhydride phosphorus oxo thio seleno acid
IT Reactivity (chemical)
(chlorine-35 NQR of)
IT NQR (nuclear quadrupole resonance)
(chlorine-35; of chloranhydrides of pentavalent phosphorus oxo-, thio-, and seleno-acids)
IT 13981-72-1, Chlorine-35, properties
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(NQR spectroscopy of chloranhydrides of pentavalent phosphorus oxo-, thio-, and seleno-acids)
IT 75-78-5 75-79-6 75-94-5 80-10-4 98-13-5 115-21-9 141-57-1
676-97-1 676-98-2 677-24-7 683-16-9 701-35-9 705-34-0 813-77-4
814-49-3 824-72-6 993-12-4 993-43-1 1015-37-8 1066-50-8
1111-92-8 1112-15-8 1112-37-4 1113-11-7 1438-74-0 1498-46-0
1498-51-7 1498-64-2 1499-21-4 1558-25-4 1719-53-5 1825-82-7
1825-83-8 1825-97-4 1983-26-2 2171-82-6 2302-80-9 2524-04-1
2524-06-3 2524-18-7 2574-25-6 3064-55-9 3449-28-3 3982-89-6
3982-91-0, Phosphorothioic trichloride 4170-46-1 4518-94-9 4525-44-4
4652-19-1 4672-45-1 4707-95-3 4708-04-7 6395-52-4 6588-22-3
7521-80-4 7751-38-4 10025-87-3, Phosphoric trichloride 10026-04-7
10026-13-8 10173-43-0 13213-38-2 13213-39-3 14705-46-5
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22585-81-5 23834-60-8 37632-18-1 37632-19-2 39078-30-3
53772-64-8 55249-21-3 55249-22-4 **55249-23-5** 58452-58-7
60951-35-1 64955-97-1 64955-98-2 64955-99-3 76076-83-0
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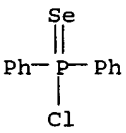
RL: PRP (Properties)
(chlorine-35 NQR of)
IT **55249-23-5**
RL: PRP (Properties)
(chlorine-35 NQR of)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



L22 ANSWER 4 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:746876 HCAPLUS
DN 136:95001
ED Entered STN: 12 Oct 2001
TI New mixed-donor unsymmetrical P-N-P ligands and their palladium(II) complexes
AU Necas, Marek; Foreman, Mark R. St J.; Marek, Jaromir; Derek Woollins, J.; Novosad, Josef
CS Department of Inorganic Chemistry, Faculty of Science, Masaryk University, Brno, 611 37, Czech Rep.
SO New Journal of Chemistry (2001), 25(10), 1256-1263
CODEN: NJCHE5; ISSN: 1144-0546
PB Royal Society of Chemistry
DT Journal
LA English
CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 29, 75
OS CASREACT 136:95001
AB Unsym. bidentate ligands R2P(E)-N(H)-P(E')R2' [R, R' = Ph, OPh, iPr; E, E' = O, S, Se] were synthesized using the condensation reaction of an amino compound, R2P(E)NH2 [R = PhO, Ph; E = O, S, Se], with a P electrophile, R2'P(E')Cl [R' = iPr, Ph, OPh; E'= O, S, Se]. Deprotonated ligands (with KOtBu) can be treated with Pd(OAc)2 to give [Ph2P(S)-N-P(O)(OPh)2]2Pd, [iPr2P(S)-N-P(O)(OPh)2]2Pd and [Ph2P(S)-N-P(S)(OPh)2]2Pd, which show either four-membered or six-membered chelate rings. The new compds. were studied spectroscopically (NMR, IR and Raman) and by x-ray crystallog.
ST crystal structure unsym imino chalcogenophosphinate chalcogenophosphonate palladium complex; phosphoryliminophosphinate unsym prepn chelation palladium; palladium imido chalcogenophosphinate chalcogenophosphonate prepn crystal structure
IT Crystal structure
Molecular structure
(of mixed-donor unsym. imino(chalcogenophosphinate)chalcogenophosphonate ligands and their palladium complexes)
IT Chelation
(of mixed-donor unsym. imino(chalcogenophosphinate)chalcogenophosphonate ligands with palladium(II))
IT 98-88-4, Benzoyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation with thiophosphoramidate)
IT 90430-78-7
RL: PRP (Properties)
(crystal structure of)
IT 1015-37-8 1499-21-4 2015-56-7 19326-23-9 22077-44-7
55249-23-5 386705-17-5 386705-18-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(for preparation of unsym. imino(chalcogenophosphinate)chalcogenophosphonate)
IT 17366-80-2 23834-61-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(for preparation of unsym. imino(chalcogenophosphinate)chalcogenophosphonate or iminobis(thiophosphinate))
IT 386705-09-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and complexation with palladium(II))
IT 13604-54-1P 244181-73-5P 244181-75-7P 386705-08-4P 386705-10-8P

386705-11-9P 386705-14-2P 386705-15-3P 386705-16-4P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)
IT 386705-12-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 342774-17-8P 386705-07-3P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, crystal structure, and complexation with palladium(II))
RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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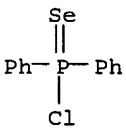
IT **55249-23-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(for preparation of unsym. imino(chalcogenophosphinate)chalcogenophosphonate)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



L22 ANSWER 5 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:487890 HCAPLUS
DN 135:282150
ED Entered STN: 06 Jul 2001
TI Improved synthesis of HN(SPPh2)(SePPh2) and some coordination chemistry of [N(SPPh2)(SePPh2)]-
AU Sekar, P.; Ibers, J. A.
CS Department of Chemistry, Northwestern University, Evanston, IL, 60208-3113, USA

SO Inorganica Chimica Acta (2001), 319(1,2), 117-122
CODEN: ICHAA3; ISSN: 0020-1693
PB Elsevier Science S.A.
DT Journal
LA English
CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 75
OS CASREACT 135:282150
AB The compound HN(SPPh2)(SePPh2) (1) was synthesized in good yield from the reaction of Ph2P(S)NH2 with Ph2P(Se)Cl in the presence of NaH in THF. With the corresponding metal salts [N(SPPh2)(SePPh2)]-, generated in situ from compound 1 in the presence of KOtBu, readily forms stable bis-chelate complexes [M{N(SPPh2)(SePPh2)}2] (M = Co, 2; Zn, 3; Sn, 4) as well as the tris-chelate complex [Bi{N(SPPh2)(SePPh2)}3] (5). These compds. were characterized by single-crystal x-ray diffraction and spectroscopic techniques. Compound 1 is isostructural with HN(SPPh2)2 and HN(SePPh2)2 and shows S/Se disorder as do compds. 2-5 where the metal center is coordinated by two or three similar [N(SPPh2)(SePPh2)]- anions. NMR data (δ ppm): 1, 31P{1H}: 56.9, 52.5 (1JP-Se = 790 Hz); 77Se{1H}: -160.2 (d, 1JSe-P = 790 Hz; 2JP-P = 4.6 Hz); 3, 31P{1H}: 41.6, 28.2 (1JP-Se = 525 Hz); 77Se{1H}: -113.1 (d, 1JSe-P = 524 Hz); 4, 31P{1H}: 41.7, 28.4 (1JP-Se = 531 Hz); 77Se{1H}: 14.6 (d, 1JSe-P = 521 Hz); 5, 31P{1H}: 38.3, 24.4 (1JP-Se = 555 Hz); 77Se{1H}: 27.0 (d, 1JSe-P = 559 Hz).
ST crystal structure thiophosphinylselenophosphinylamine cobalt zinc tin bismuth complex; thiophosphinylselenophosphinylamine cobalt zinc tin bismuth complex prepn structure
IT Crystal structure
Molecular structure
(of (diphenylthiophosphinyl)(diphenylselenophosphinyl)amine and its cobalt, zinc, tin and bismuth complexes)
IT 212072-40-7P, (Diphenylthiophosphinyl)(diphenylselenophosphinyl)amine
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(improved preparation and crystal and mol. structure and complexation)
IT 364079-95-8P 364079-96-9P 364079-99-2P 364080-00-2P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure)
IT 364079-97-0P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and mol. structure)
IT 17366-80-2, Diphenylthiophosphinamide **55249-23-5**, Diphenylselenophosphinic chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for improved preparation of (diphenylthiophosphinyl)(diphenylselenophosphinyl)amine and its cobalt, zinc, tin and bismuth complexes)
IT 14126-40-0, Dichlorobis(triphenylphosphine)cobalt
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for preparation of cobalt (diphenylthiophosphinyl)(diphenylselenophosphinyl)aminato complex)
RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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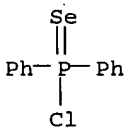
IT **55249-23-5**, Diphenylselenophosphinic chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for improved preparation of (diphenylthiophosphinyl)(diphenylselenophosphinyl)amine and its cobalt, zinc, tin and bismuth complexes)

RN 55249-23-5 HCAPLUS

CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



L22 ANSWER 6 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:294000 HCAPLUS

DN 133:89055

ED Entered STN: 09 May 2000

TI An Unexpected Carbon Dioxide Insertion in the Reaction of Trans-2,4-Disubstituted Azetidine, Trans-2,5-Disubstituted Pyrrolidine, or Trans-2,6-Disubstituted Piperidine with Diphenylthiophosphinic Chloride and Diphenylselenophosphinic Chloride

AU Shi, Min; Jiang, Jian-Kang; Shen, Yu-Mei; Feng, Yan-Shu; Lei, Gui-Xin

CS Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai, 200032, Peop. Rep. China

SO Journal of Organic Chemistry (2000), 65(11), 3443-3448
CODEN: JOCEAH; ISSN: 0022-3263

PB American Chemical Society

DT Journal

LA English

CC 21-2 (General Organic Chemistry)
Section cross-reference(s): 27

OS CASREACT 133:89055

AB In the reaction of trans-2,4-disubstituted azetidine, trans-2,5-disubstituted pyrrolidine, or trans-2,6-disubstituted piperidine with diphenylthiophosphinic chloride or diphenylselenophosphinic chloride in acetonitrile in the presence of potassium carbonate at room temperature, an unexpected carbon dioxide insertion produced a carbamic

diphenylthiophosphinic or diphenylselenophosphinic anhydride in good yield. The same product could also be obtained when the reaction was carried out under a carbon dioxide atmospheric with potassium hydroxide or triethylamine as a base. This reaction process is related to the fixation of carbon dioxide without a metal catalyst.

ST carbon dioxide insertion reaction trans disubstituted azetidine; pyrrolidine trans disubstituted carbon dioxide insertion reaction; piperidine trans disubstituted carbon dioxide insertion reaction

IT Insertion reaction
(carbon dioxide insertion in reactions of trans-disubstituted azetidine, pyrrolidine, and piperidine with diphenylthio- or diphenylselenophosphinic chloride)

IT Crystal structure
Molecular structure
(of 1-(diphenylthioxophosphinyl)- and 1-[[(diphenylthioxophosphinyl)oxy]carbonyl]-substituted di-Me trans-2,5-pyrrolidinedicarboxylates)

IT 98-74-8, 4-Nitrobenzenesulfonyl chloride 98-88-4, Benzoyl chloride 121-44-8, reactions 1015-37-8, Diphenylthiophosphinic chloride 2577-48-2, L-Proline methyl ester **55249-23-5**, Diphenylselenophosphinic chloride 105016-60-2 116836-62-5 116836-63-6 156720-59-1 282088-08-8 282088-15-7 282088-17-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(carbon dioxide insertion in reactions of trans-disubstituted azetidine, pyrrolidine, and piperidine with diphenylthio- or diphenylselenophosphinic chloride)

IT 3096-09-1P 38938-22-6P 282088-10-2P 282088-11-3P 282088-13-5P 282088-14-6P 282088-16-8P 282088-18-0P 282088-19-1P 282088-20-4P 282088-21-5P 282088-22-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(carbon dioxide insertion in reactions of trans-disubstituted azetidine, pyrrolidine, and piperidine with diphenylthio- or diphenylselenophosphinic chloride)

IT 282088-09-9P 282088-12-4P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of, via carbon dioxide insertion in reaction of trans-disubstituted pyrrolidine with diphenylthiophosphinic chloride)

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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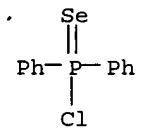
IT **55249-23-5**, Diphenylselenophosphinic chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(carbon dioxide insertion in reactions of trans-disubstituted azetidine, pyrrolidine, and piperidine with diphenylthio- or diphenylselenophosphinic chloride)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



L22 ANSWER 7 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:276458 HCAPLUS
DN 133:30796
ED Entered STN: 28 Apr 2000
TI NMR 77Se, 125Te, 31P and structure of seleno- and telluro-phosphorus compounds
AU Il'Yasov, Akhat V.; Nuretdinov, Ildus A.
CS Arbuzov Institute of Organic and Physical Chemistry, Kazan, 420088, Russia
SO Phosphorus, Sulfur and Silicon and the Related Elements (1998), 136,137&138, 479-482
CODEN: PSSLEC; ISSN: 1042-6507
PB Gordon & Breach Science Publishers
DT Journal
LA English
CC 29-8 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 22
AB Spectra of a NMR of seleno- and telluro-P compds. on nuclei 77Se, 125Te, 31P are described. The dependencies of spectral parameters on the structure of the substituents at the P atom in these compds. are discussed.
ST substituent effect NMR seleno telluro phosphorus compd
IT Substituent effects
(of seleno- and tellurophosphorus compds. on NMR)
IT NMR (nuclear magnetic resonance)
(substituent effect of seleno- and tellurophosphorus compds. on)
IT 2935-46-8, Tributylphosphine telluride 3878-44-2, Triphenylphosphine selenide 6395-52-4 14705-46-5, Dichloroethylphosphine selenide 21522-01-0, Triethylphosphine selenide 21992-95-0 39078-28-9, Ethoxydiethylphosphine selenide 39078-29-0, Diethyl(ethylthio)phosphine selenide 39078-30-3 50351-54-7, Diethylphenoxyphosphine selenide 53213-39-1, Difluoroethylphosphine selenide **55249-23-5** 59085-25-5, Diethyl(methylamino)phosphine selenide 273937-54-5, Dibromoethylphosphine selenide 273937-55-6 273937-56-7, Dibutoxyethylphosphine telluride 273937-57-8, Diethyl(phenoxy)phosphine telluride 273937-58-9, Diethyl(menthyloxy)phosphine telluride
RL: PRP (Properties)
(substituent effect of seleno- and tellurophosphorus compds. on NMR)
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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(2) Nuretdinov, I; J obch chimii 1978, V48, P1071 HCAPLUS
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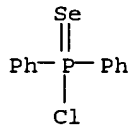
IT **55249-23-5**
RL: PRP (Properties)

(substituent effect of seleno- and tellurophosphorus compds. on NMR)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



L22 ANSWER 8 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:228634 HCAPLUS
DN 133:17049
ED Entered STN: 09 Apr 2000
TI Chiral diphenylselenophosphoramides: a new class of chiral ligands for the titanium(IV) alkoxide-promoted addition of diethylzinc to aldehydes
AU Shi, Min; Sui, Wen-Sheng
CS Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai, 200032, Peop. Rep. China
SO Tetrahedron: Asymmetry (2000), 11(3), 835-841
CODEN: TASYE3; ISSN: 0957-4166
PB Elsevier Science Ltd.
DT Journal
LA English
CC 21-2 (General Organic Chemistry)
OS CASREACT 133:17049
AB Chiral C2-sym. diphenylselenophosphoramides were prepared from the reaction of diphenylselenophosphinic chloride with (1R,2R)-(-)-1,2-diaminocyclohexane and (1R,2R)-(+)-1,2-diphenylethylenediamine, resp., in high yields. Another novel chiral ligand was prepared from the reaction of diphenylselenophosphinic chloride with (R)-(+)-1,1'-binaphthyl-2,2'-diamine using butyllithium as the base. The ligands were used as catalytic chiral ligands in the titanium(IV) alkoxide-promoted enantioselective addition reaction of diethylzinc to aldehydes.
ST diphenylselenophosphoramide chiral diethylzinc addn aldehyde; selenophosphoramide chiral diethylzinc addn aldehyde
IT Addition reaction
Addition reaction catalysts
(stereoselective; titanium(IV) alkoxide-promoted addition of diethylzinc to aldehydes in presence of chiral diphenylselenophosphoramides)
IT Aldehydes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(titanium(IV) alkoxide-promoted addition of diethylzinc to aldehydes in presence of chiral diphenylselenophosphoramides)
IT 546-68-9, Titanium(IV) isopropoxide
RL: CAT (Catalyst use); USES (Uses)
(titanium(IV) alkoxide-promoted addition of diethylzinc to aldehydes in presence of chiral diphenylselenophosphoramides)
IT 271767-20-5P 271767-21-6P 272116-81-1P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(titanium(IV) alkoxide-promoted addition of diethylzinc to aldehydes in presence of chiral diphenylselenophosphoramides)
IT 66-77-3, 1-Formylnaphthalene 100-52-7, Benzaldehyde, reactions 104-55-2, Cinnamaldehyde 104-87-0, 4-Methylbenzaldehyde 104-88-1, 4-Chlorobenzaldehyde, reactions 110-62-3, Pentanal 123-11-5, 4-Methoxybenzaldehyde, reactions 557-20-0, Diethylzinc 613-45-6, 2,4-Dimethoxybenzaldehyde 1700-37-4, 3-Benzyloxybenzaldehyde 18741-85-0, (R)-(+)-1,1'-Binaphthyl-2,2'-diamine 20439-47-8, (1R,2R)-(-)-1,2-Diaminocyclohexane 35132-20-8, (1R,2R)-(+)-1,2-Diphenylethylenediamine **55249-23-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(titanium(IV) alkoxide-promoted addition of diethylzinc to aldehydes in

presence of chiral diphenylselenophosphoramides)
IT 1565-74-8P 62701-49-9P 105836-14-4P 110611-21-7P 112777-65-8P
114091-67-7P 130857-07-7P 253452-65-2P 253452-67-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(titanium(IV) alkoxide-promoted addition of diethylzinc to aldehydes in presence of chiral diphenylselenophosphoramides)
RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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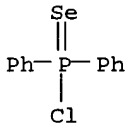
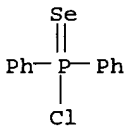
IT **55249-23-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(titanium(IV) alkoxide-promoted addition of diethylzinc to aldehydes in presence of chiral diphenylselenophosphoramides)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)

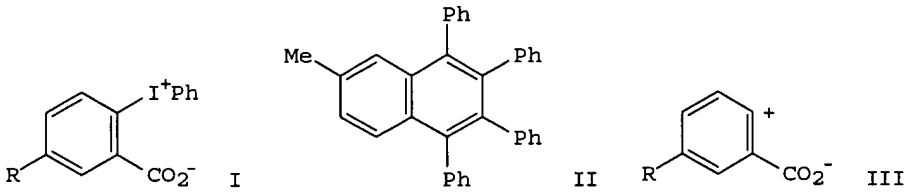


L22 ANSWER 9 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1984:22721 HCAPLUS
DN 100:22721
ED Entered STN: 12 May 1984
TI Selenium-77 and phosphorus-31 NMR spectra of organophosphoroselenium compounds
AU Enikeev, K. M.; Bayandina, E. V.; Ismaev, I. E.; Buina, N. A.; Il'yasov, A. V.; Nuretdinov, I. A.
CS Inst. Org. Fiz. Khim. im. Arbuzova, Kazan, USSR
SO Zhurnal Obshchei Khimii (1983), 53(9), 2143-4
CODEN: ZOKHA4; ISSN: 0044-460X
DT Journal
LA Russian
CC 29-7 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 22
AB The 77Se and 31P NMR of (PhO)3-nPSeCln and Ph3-nPSeCln (n = 0-2) were studied.
ST NMR phosphoroselenium compd; selenium phosphorus compd NMR
IT Nuclear magnetic resonance
(of phosphorus-31 and selenium-77, in phosphoroselenium compds.)
IT 14681-72-2, properties
RL: PRP (Properties)
(NMR of, in phosphoroselenium compds.)
IT 3878-44-2 7248-72-8 39078-30-3 39104-78-4 **55249-23-5**
RL: PROC (Process)

(phosphorus-31 and selenium-77 NMR of)
IT 55249-23-5
RL: PROC (Process)
(phosphorus-31 and selenium-77 NMR of)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



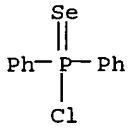
L22 ANSWER 10 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1980:57798 HCAPLUS
DN 92:57798
ED Entered STN: 12 May 1984
TI Reactions of diaryliodonio-2-carboxylate salts with organic halides of tellurium, selenium, and phosphorus
AU Bonilha, Joao Batista Sargi; Miola, Laerte; Toscano, Vicente G.
CS Fac. Filos., Univ. Sao Paulo, Sao Paulo, Brazil
SO Naturalia (Sao Jose do Rio Preto, Brazil) (1977), 3, 57-65
CODEN: NTRLDP; ISSN: 0101-1944
DT Journal
LA Portuguese
CC 22-3 (Physical Organic Chemistry)
OS CASREACT 92:57798
GI



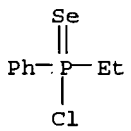
AB Treatment of I (R = H) with R1TeCl3 (R1 = Ph, p-EtOC6H4, p-MeOC6H4) or TeCl4 in o-Cl2C6H4 1 h at 180-90° under argon gave 47.3-80.3% o-ClC6H4CO2H. Similarly I (R = Me) and TeCl4 gave 43% 2,5-ClMeC6H3CO2H. I (R = H) and Ph2P(Se)Cl or PhSeBr gave 50% o-ClC6H4CO2H or 30% o-BrC6H4CO2H, resp. I (R = Me) and tetracyclone in o-Cl2C6H4 at 180-90° did not give II. II was obtained in triglyme at 220° indicating the 4-methylbenzyne was not an intermediate in the nucleophilic substitution reaction. The nucleophilic displacement of the phenyliodonium group involves the formation of III as a reaction intermediate.
ST nucleophilic substitution aryliodoniobenzoate tellurium chloride; phosphinoseleno chloride aryliodoniobenzoate substitution; phenylselenium bromide aryliodoniobenzoate substitution; selenium halide aryliodoniobenzoate substitution; methylbenzyne tetracyclone cycloaddn; methyltetraphenylnaphthalene
IT Elimination reaction
(from o-phenyliodonium benzoates, mechanism of)
IT Substitution reaction, nucleophilic
(of o-phenyliodonium benzoate with tellurium, selenium, or phosphorus halide, mechanism of)

IT 108-86-1, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(Grignard reaction of, with selenium)
IT 118-92-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(Sandmeyer reaction of, o-iodobenzoic acid from)
IT 13494-80-9, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(chlorination of, tellurium tetrachloride from)
IT 479-33-4
RL: PRP (Properties)
(cycloaddn. reaction of, with methylbenzyne, methyl(tetraphenyl)naphthalene from)
IT 2941-78-8
RL: PRP (Properties)
(diazotization and Sandmeyer reaction of)
IT 1488-42-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(nucleophilic substitution reaction of, with tellurium, selenium, or phosphorus halide, mechanism of)
IT 67461-96-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(nucleophilic substitution reaction of, with tellurium, selenium, or phosphorus halides, mechanism of)
IT 55249-23-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(nucleophilic substitution reaction of, with o-phenyliodoniobenzoate, mechanism of)
IT 10026-07-0 29510-67-6 34837-55-3 36309-68-9 36310-31-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(nucleophilic substitution reaction of, with o-phenyliodonium benzoate, mechanism of)
IT 1079-66-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, with selenium)
IT 5849-21-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cycloaddn. reaction of, with tetracyclone)
IT 88-67-5P 645-96-5P 52548-14-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and oxidation of)
IT 92-52-4P, reactions
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with bromine, phenylselenium bromide from)
IT 21991-42-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 7782-49-2, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phenylmagnesium bromide, selenophenol from)
IT 100-56-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with tellurium tetrachloride, phenyltellurium trichloride from)
IT 622-62-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with tellurium tetrachloride, p-ethoxyphenyltellurium trichloride from)
IT 100-66-3, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with tellurium tetrachloride, p-methoxyphenyltellurium trichloride from)
IT 55249-23-5

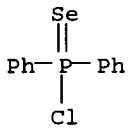
RL: RCT (Reactant); RACT (Reactant or reagent)
(nucleophilic substitution reaction of, with o-phenyliodoniobenzoate, mechanism of)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



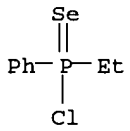
L22 ANSWER 11 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1978:507713 HCAPLUS
DN 89:107713
ED Entered STN: 12 May 1984
TI Dipole moments of a series of selenophosphoryl compounds
AU Shagidullin, R. R.; Vandyukova, I. I.; Nuretdinov, I. A.
CS Inst. Org. Fiz. Khim. im. Arbuzova, Kazan, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1978), (6), 1407-9
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
CC 22-8 (Physical Organic Chemistry)
AB A linear relation was found between the dipole moments of several selenophosphoryl compds., e.g., MeP(Se)Cl2, (PrO)3PSe, EtP(Se)(NMe2)2, and the sum of the substituent consts. of the groups attached to P. The polarizability and coordination character of P:X bonds decreases in the order X = Se > S > O.
ST selenophosphoryl compd dipole moment; LFER dipole moment selenophosphoryl
IT Linear free energy relationship
(for dipole moments of selenophosphoryl compds.)
IT Dipole moment
(of selenophosphoryl compds.)
IT 152-19-2 2171-82-6 2651-89-0 3878-44-2 5853-64-5 6395-52-4
7322-77-2 7422-73-3 7441-05-6 14705-46-5 20180-11-4 21522-01-0
22230-88-2 23389-78-8 23486-86-4 30385-53-6 **35400-21-6**
35525-41-8 35525-42-9 39078-30-3 51072-23-2 55205-96-4
55249-23-5 67471-54-9
RL: PRP (Properties)
(dipole moment of)
IT **35400-21-6** **55249-23-5**
RL: PRP (Properties)
(dipole moment of)
RN 35400-21-6 HCAPLUS
CN Phosphinoselenoic chloride, ethylphenyl- (9CI) (CA INDEX NAME)



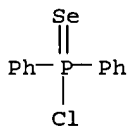
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



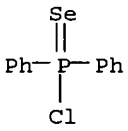
L22 ANSWER 12 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1978:442183 HCAPLUS
DN 89:42183
ED Entered STN: 12 May 1984
TI Electronic effects of substituents in phosphorus seleno acid chlorides
AU Nuretdinov, I. A.; Loginova, E. I.; Bayandina, E. V.
CS Inst. Org. Fiz. Khim. im. Arbuzova, Kazan, USSR
SO Zhurnal Obshchei Khimii (1978), 48(5), 1071-3
CODEN: ZOKHA4; ISSN: 0044-460X
DT Journal
LA Russian
CC 22-8 (Physical Organic Chemistry)
AB 31P NMR chemical shifts, 31P-77Se coupling consts. (J), and IR frequencies of the P:Se group in RP(Se)Cl2 (R = Me, Et, Bu, Ph, p-ClC6H4, p-MeC6H4) and R1R2P(Se)Cl (R1 = R2 = Et, Bu, Ph; R1 = Et, R2 = Ph) were determined Linear relations were found between J and Taft σ* consts. and 35Cl NQR frequencies. The contribution of the Cl atom to J was 350 Hz.
ST selenophosphorus chloride NMR IR; LFER NMR selenophosphorus chloride; substituent effect selenophosphorus chloride
IT Linear free energy relationship
(for NMR coupling consts. in selenophosphorus acid chlorides)
IT Substituent effect
(in selenophosphorus acid chlorides)
IT Nuclear magnetic resonance
(of phosphorus-31, in selenophosphorus acid chlorides)
IT Infrared spectra
(of selenophosphorus acid chlorides)
IT 2171-82-6 6395-52-4 14705-46-5 **35400-21-6** 39078-30-3
55249-21-3 55249-22-4 **55249-23-5** 67074-88-8 67074-89-9
RL: PRP (Properties)
(NMR and IR spectra of)
IT **35400-21-6 55249-23-5**
RL: PRP (Properties)
(NMR and IR spectra of)
RN 35400-21-6 HCAPLUS
CN Phosphinoselenoic chloride, ethylphenyl- (9CI) (CA INDEX NAME)



RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)

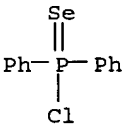


L22 ANSWER 13 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1976:180382 HCAPLUS
DN 84:180382
ED Entered STN: 12 May 1984
TI Organometallic complexes containing phosphorus(V) bonded to a transition metal: derivatives of dicarbonyl(η-cyclopentadienyl)ferrate (1-)
AU Piraino, P.; Faraone, F.; Aversa, M. C.
CS Ist. Chim. Gen., Univ. Messina, Messina, Italy
SO Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1972-1999) (1976), (7), 610-13
CODEN: JCDTBI; ISSN: 0300-9246
DT Journal
LA English
CC 29-12 (Organometallic and Organometalloidal Compounds)
AB FeL(CO)2(PR2X) (I; X = S, R = Me; II, X = S, R = OEt; III, X = Se, R = Ph; L = η-cyclopentadienyl) were prepared by the reaction of Na[FeL(CO)2] with PBrMe2S, PCl(OEt)2S, or PPh2ClSe, resp. The method is suitable for a wide series of carbonylmetallates. On the basis of ir and PMR data, I-III contain an Fe-P rather than an Fe-X bond. Reaction of PPh3 or PMe2Ph with I-III gave only substitution products. [FeL(CO)2[PR2(XMe)]]+ were obtained by S- or Se-methylation using MeI or [OMe3][BF4] as reagents. EtI and [OEt3][BF4] react only with I.
ST selenoato phosphino complex iron; thiophosphato complex iron; iron phosphinothioato complex; carbonyl iron; cyclopentadiene complex iron
IT Carbonyls
RL: RCT (Reactant); RACT (Reactant or reagent)
(iron)
IT 59634-29-6P 59634-30-9P 59634-31-0P 59634-33-2P 59634-35-4P
59634-37-6P 59634-39-8P 59634-40-1P 59634-41-2P 59634-42-3P
59634-43-4P 59689-96-2P 59689-97-3P 59689-98-4P 59689-99-5P
59690-00-5P 59690-01-6P 59690-02-7P 59690-03-8P 59714-38-4P
59733-21-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 2524-04-1 6839-93-6 **55249-23-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with carbonylferrate complex)
IT 12152-20-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactions of, with phosphinothioic or-selenoic halides)
IT **55249-23-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with carbonylferrate complex)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



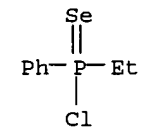
L22 ANSWER 14 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1975:139082 HCAPLUS
DN 82:139082
ED Entered STN: 12 May 1984
TI Nuclear quadrupole resonance study of electron effects in heteroorganic compounds. 4. Phosphorus selenic acid chlorides
AU Nuretdinov, I. A.; Osokin, D. Ya.; Safin, I. A.
CS Kazan. Fiz.-Tekh. Inst., Kazan, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1975), (2), 327-30
CODEN: IASKA6; ISSN: 0002-3353
DT Journal

LA Russian
CC 22-8 (Physical Organic Chemistry)
AB NQR data for RR1P(X)Cl (R = Me, Et, Bu, Ph; R1 = Cl, Et, Bu, Ph; X = Se, S, O) indicate that the electron d. on the Cl atom is governed by an inductive effect from R and R1 and by a mesomeric effect from X.
ST NQR phosphorus selenic chloride; selenophosphorus chloride NQR
IT Nuclear quadrupole resonance
(of selenophosphorus chlorides)
IT Substituent effect
(on NQR of selenophosphorus chlorides)
IT 1015-37-8 2171-82-6 6395-52-4 6588-22-3 14705-46-5 23834-60-8 39078-30-3 55249-21-3 55249-22-4 **55249-23-5**
RL: PRP (Properties)
(NQR of chlorine-35 in)
IT **55249-23-5**
RL: PRP (Properties)
(NQR of chlorine-35 in)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



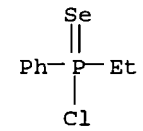
L22 ANSWER 15 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1974:418897 HCAPLUS
DN 81:18897
ED Entered STN: 12 May 1984
TI Spin-spin interaction between phosphorus-31-selenium-77 and phosphorus-31-tellurium-125 nuclei in compounds containing the .tplbond.P-X group, where X is oxygen, sulfur, selenium, or tellurium
AU Loginova, E. I.; Nuretdinov, I. A.; Petrov, Yu. A.
CS Kazan. Fiz.-Tekh. Inst., Kazan, USSR
SO Teoreticheskaya i Eksperimental'naya Khimiya (1974), 10(1), 75-81
CODEN: TEKHA4; ISSN: 0497-2627
DT Journal
LA Russian
CC 73-4 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
AB The 31P NMR spectra (15.07 MHz) of organic compds., containing .tplbond.P → X groups (X = Se, Te, O), were investigated; the chemical shifts δ31P were measured with respect to 85% aqueous H3PO4. A central, most intense signal, corresponding to 31P nuclei, bonded to Se and Te nuclei, free of a magnetic moment, as well as 2 satellites, related to spin-spin couplings of 31P with 77Se and 125Te, were observed The 1J31P-77Se spin-spin interaction constant value (789-1130 Hz) depended considerably on the nature of the P substituents. The 1K31P-77Se as well as 1K31P-125Te signs were neg.; the 1J31P-77Se and 1J31P-125Te signs were opposite. The degree of s-character of the σ-mol. bonding orbital was considerably sensitive to small changes of valence angles in the mol. The observed variations of the 1K31P-77Se spin-spin interaction constant values in Se:PZ2T were attributed to the spin d. changes caused by the change of the Z and T substituent nature. The Jameson-Gutowsky model (C. J. Jameson, H. S. Gutowsky, 1969) for the spin-spin interaction of nuclei immediately bonded predicts not only the sign but explains to a degree also the observed change of the 1K31P-77Se value.
ST nuclear spin phosphorus chalcogens; selenium phosphorus spin coupling; tellurium phosphorus spin coupling; NMR organophosphorus chalcogen compds
IT Nuclear magnetic resonance
(of phosphorus-31, in organophosphorus-chalcogen compds.)
IT Spin, nuclear coupling

(phosphorus-31-selenium-77 and phosphorus-31-tellurium-125)
IT 7441-05-6 14705-46-5 35060-67-4 **35400-21-6** 35525-41-8
39104-73-9 51461-98-4 52704-06-0 52704-07-1
RL: PRP (Properties)
(NMR of phosphorus in, chalcogen-phosphorus spin-spin coupling in)
IT 14681-72-2, properties
RL: RCT (Reactant); RACT (Reactant or reagent)
(nuclear spin-spin coupling of, with phosphorus-31)
IT 14390-73-9, properties
RL: RCT (Reactant); RACT (Reactant or reagent)
(nuclear spin-spin coupling of, with phosphorus-31 in organo phosphorus compds.)
IT 7723-14-0, properties
RL: PRP (Properties)
(nuclear spin-spin interaction of, with selenium-77 and tellurium-125 in organo phosphorus compds. containing chalcogens)
IT **35400-21-6**
RL: PRP (Properties)
(NMR of phosphorus in, chalcogen-phosphorus spin-spin coupling in)
RN 35400-21-6 HCAPLUS
CN Phosphinoselenoic chloride, ethylphenyl- (9CI) (CA INDEX NAME)

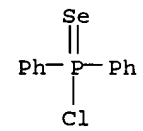


L22 ANSWER 16 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1972:92662 HCAPLUS
DN 76:92662
ED Entered STN: 12 May 1984
TI Phosphorus-31 and selenium-77 spin-spin interaction constants and structure of chlorophosphine selenides
AU Nuretdinov, I. A.; Loginova, E. I.
CS Inst. Org. Fiz. Khim. im. Arbuzova, Kazan, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1971), (10), 2360-1
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
CC 73 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
AB NMR spectra showed spin-spin interaction between 31P and 77Se; the former formed a triplet for compds. with the P(Se) group in chlorides, amides and esters. In EtP(Se)Cl2,JP-Se = 920 Hz, in EtPhP(Se)Cl it is 840 Hz. The value of J allowed structure determination in P-Se compds. when their 31P chemical shifts were too close to each other for identification.
ST phosphorus selenium compd NMR; selenium phosphorus compd NMR; phosphine selenide compd NMR
IT Spin, nuclear coupling
(-spin coupling, in chlorophosphine selenides)
IT Molecular structure-property relationship
(NMR, of chlorophosphine selenides)
IT Nuclear magnetic resonance
(of phosphorus-31, in chlorophosphine selenides)
IT 14705-46-5 **35400-21-6**
RL: PRP (Properties)
(nuclear spin-spin coupling in)
IT 7723-14-0, properties
RL: PRP (Properties)
(nuclear spin-spin coupling of phosphorus-31, with selenium-77 in chlorophosphine selenides)
IT 14681-72-2, properties

RL: RCT (Reactant); RACT (Reactant or reagent)
(nuclear spin-spin coupling of, with phosphorus-31 in chlorophosphine selenides)
IT **35400-21-6**
RL: PRP (Properties)
(nuclear spin-spin coupling in)
RN 35400-21-6 HCAPLUS
CN Phosphinoselenoic chloride, ethylphenyl- (9CI) (CA INDEX NAME)

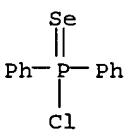


L22 ANSWER 17 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1963:24494 HCAPLUS
DN 58:24494
OREF 58:**4063e-f**
ED Entered STN: 22 Apr 2001
TI Passage effects for electron paramagnetic resonance (E.P.R.) lines with inhomogeneous broadening and with use of high-frequency modulation of the magnetic field
AU Bugai, A. A.
CS Inst. Semiconductors, Kiev
SO Fizika Tverdogo Tela (Sankt-Peterburg) (1962), 4, 3027-34
CODEN: FTVTAC; ISSN: 0367-3294
DT Journal
LA Unavailable
CC 10 (Spectra and Some Other Optical Properties)
AB A classical vector model is used to consider quant. the passage effects which take place during observation of E.P.R. (dispersion, in particular) of an inhomogeneously broadened line. The results agree with exptl. observed variations of the shape of dispersion signals of F centers in KCl on variation of the amplitude of modulation of the magnetic field and the amplitude of the magnetic component of the field in the resonator.
IT Color centers
(in potassium chloride, magnetic resonance absorption of F, passage effect in)
IT Magnetic resonance absorption
(passage effect in)
IT 7447-40-7, Potassium chloride
(color centers in, magnetic resonance absorption of F, passage effect in)
IT 1015-37-8, Phosphinothioic chloride, diphenyl- **55249-23-5**, Phosphinoselenoic chloride, diphenyl-
(spectrum of)
IT **55249-23-5**, Phosphinoselenoic chloride, diphenyl-
(spectrum of)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



L22 ANSWER 18 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1963:24493 HCAPLUS

DN 58:24493
OREF 58:**4063d-e**
ED Entered STN: 22 Apr 2001
TI Phosphine sulfides and selenides: the phosphorus-sulfur and phosphorus-selenium stretching frequencies
AU Zingaro, Ralph A.
CS Agr. and Mech. Coll. of Texas, College Station
SO Inorg. Chem. (1963), 2, 192-6
DT Journal
LA Unavailable
CC 10 (Spectra and Some Other Optical Properties)
AB The fundamental P:X stretching frequency, where X is a S or Se atom, was assigned in 15 phosphine sulfides and 13 phosphine selenides. The effect of coordination with halogen mols. on this vibration also was observed. A statistically significant correlation exists between the position of the P:S band and the nature of the substituents attached to the P atom.
IT Spectra, infrared
(of phosphine selenide and phosphine sulfide organic derivs.)
IT Force constants
(of phosphine selenides)
IT Iodine bromide, IBr, compound with tricyclohexylphosphine selenide (1:1)
Iodine compounds, with triphenylphosphine sulfide
Phosphine sulfide, triphenyl-, compound with ICl
(spectrum of)
IT 35280-73-0, Phosphine sulfide 35280-74-1, Phosphine selenide
(derivs., spectra of)
IT 7782-49-2, Selenium
(phosphorus-containing, spectra of)
IT 597-51-3, Phosphine sulfide, triethyl- 1015-37-8, Phosphinothioic chloride, diphenyl- 1017-98-7, Phosphine sulfide, ethyldiphenyl- 1707-00-2, Phosphine sulfide, dimethylphenyl- 2404-55-9, Phosphine sulfide, trimethyl- 3084-50-2, Phosphine sulfide, tributyl- 3878-44-2, Phosphine selenide, triphenyl- 3878-45-3, Phosphine sulfide, triphenyl- 5958-59-8, Phosphine sulfide, dibutylphenyl- 13639-72-0, Phosphine sulfide, tripropyl- 13639-74-2, Phosphine sulfide, methyldiphenyl- 14684-35-6, Phosphine sulfide, diethylphenyl- 15367-52-9, Phosphine sulfide, butyldiphenyl- 20819-54-9, Phosphine selenide, trimethyl- 21522-01-0, Phosphine selenide, triethyl- 23176-17-2, Phosphine selenide, methyldiphenyl- 27546-81-2, Phosphine selenide, ethyldiphenyl- 39181-22-1, Phosphine selenide, diethylphenyl- 39181-26-5, Phosphine selenide, tributyl- 42201-98-9, Phosphine sulfide, tricyclohexyl- 51072-21-0, Phosphine selenide, dimethylphenyl- 52784-98-2, Phosphine selenide, tricyclohexyl- **55249-23-5**, Phosphinoselenoic chloride, diphenyl- 55344-99-5, Phosphine sulfide, triphenyl-, compound with I2 55345-02-3, Iodine chloride, ICl, compound with triphenylphosphine sulfide (1:1) 93457-66-0, Phosphine selenide, tripropyl- 97436-08-3, Phosphine selenide, tripentyl- 97832-59-2, Phosphine selenide, butyldiphenyl- 100146-20-1, Iodine bromide, IBr, compound with triphenylphosphine selenide (1:1) 100146-20-1, Phosphine selenide, triphenyl-, compound with IBr 101036-32-2, Phosphine selenide, tricyclohexyl-, compound with IBr
(spectrum of)
IT **55249-23-5**, Phosphinoselenoic chloride, diphenyl-
(spectrum of)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



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L21  ANSWER 1 OF 6  HCAPLUS  COPYRIGHT 2005 ACS on STN
AN   1998:39369  HCAPLUS
DN   128:115182
ED   Entered STN:  24 Jan 1998
TI   New general synthesis of organophosphorus P-F compounds via reaction of
     azolides of phosphorus acids with acyl fluorides: novel route to
     2-deoxynucleosidyl phosphorofluoridates and phosphorodifluoridates.
     [Erratum to document cited in CA121:205857]
AU   Dabkowski, Wojciech; Michalski, Jan; Wasiak, Jacek; Cramer, Friedrich
CS   Cent. Mol. Macromol. Stud., Pol. Acad. Sci., Lodz, 90-363, Pol.
SO   Journal of the Chemical Society, Perkin Transactions 1: Organic and
     Bio-Organic Chemistry (1997), (24), 3685
     CODEN: JCPRB4; ISSN: 0300-922X
PB   Royal Society of Chemistry
DT   Journal
LA   English
CC   33-9 (Carbohydrates)
AB   A protocol concerning the preparation of 2'-deoxyadenosin-5'-yl thymidin-3'-yl
     phosphorofluoridate 7b, omitted from the Exptl. part of the paper, is
     presented.
ST   erratum phosphorofluoridate deoxyribonucleoside; phosphorofluoridate
     deoxyribonucleoside erratum; nucleoside deoxyribo phosphorofluoridate
     phosphorodifluoridate erratum; phosphorodifluoridate deoxyribonucleoside
     erratum; fluorophosphonate deoxyribonucleotide erratum; benzoyl fluoride
     fluorination nucleotide phosphoroimidazolidate erratum
IT   Fluorination
       (P-; of nucleotide phosphoroimidazolidate with benzoyl fluoride
       (Erratum))
IT   Nucleotides, reactions
     RL: RCT (Reactant); RACT (Reactant or reagent)
       (phosphoroimidazolidates, P-fluorination of, with benzoyl fluoride
       (Erratum))
IT   359-40-0, Oxalyl difluoride  455-32-3, Benzoyl fluoride
     RL: RCT (Reactant); RACT (Reactant or reagent)
       (P-fluorination of azolides with (Erratum))
IT   54877-59-7  158619-70-6
     RL: RCT (Reactant); RACT (Reactant or reagent)
       (P-fluorination of, with acyl fluoride (Erratum))
IT   13567-99-2  16913-98-7  66778-06-1  71638-08-9  93403-77-1
     99450-90-5  107313-21-3  114825-44-4  114825-45-5  157825-64-4
     157825-65-5  157825-66-6  157825-67-7  157825-69-9  157825-70-2
     RL: RCT (Reactant); RACT (Reactant or reagent)
       (P-fluorination of, with benzoyl fluoride (Erratum))
IT   157825-75-7
     RL: RCT (Reactant); RACT (Reactant or reagent)
       (coupling of, with thymidine (Erratum))
IT   69075-29-2
     RL: RCT (Reactant); RACT (Reactant or reagent)
       (coupling of, with thymidine phosphorodifluoridate (Erratum))
IT   157825-74-6P
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
       (preparation and P-oxidation of (Erratum))
IT   119093-14-0P  157825-71-3P
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
       (preparation and deblocking of (Erratum))
IT   143415-96-7P
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
       (preparation and phosphodiesterase hydrolysis of (Erratum))
IT   50-89-5P, Thymidine, preparation  958-09-8P  3802-85-5P  56888-24-5P
     143415-97-8P  157825-72-4P  157825-73-5P
     RL: SPN (Synthetic preparation); PREP (Preparation)
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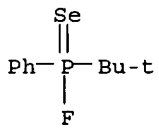
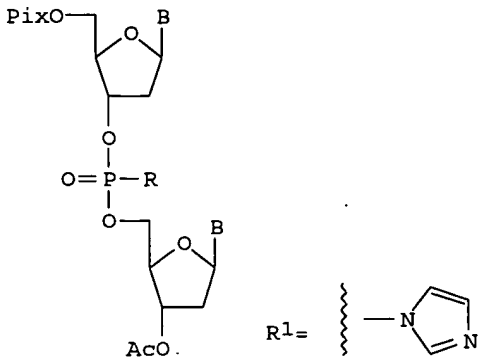
(preparation of (Erratum))
IT 358-74-7P 358-75-8P 403-65-6P 657-97-6P 676-99-3P 753-70-8P
753-72-0P 1135-98-4P 1648-39-1P 20472-53-1P 22382-13-4P
59319-65-2P 76628-09-6P 113680-13-0P **157825-68-8P**
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of, by P-fluorination of azolide with benzoyl fluoride (Erratum))
IT 76054-81-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphoryl triimidazolides (Erratum))
IT 13184-55-9 16062-77-4 73946-92-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with thymidine derivative (Erratum))
IT 9025-82-5, Phosphodiesterase
RL: RCT (Reactant); RACT (Reactant or reagent)
(spleen and snake venom, hydrolysis of deoxynucleosidyl phosphorofluoridates in presence of (Erratum))
RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Dabkowski, W; J Chem Soc, Perkin Trans 1 1992, P1447 HCAPLUS
(2) Dabkowski, W; Methods in Molecular Biology 1993, V20, P245 HCAPLUS
IT **157825-68-8P**
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of, by P-fluorination of azolide with benzoyl fluoride (Erratum))
RN 157825-68-8 HCAPLUS
CN Phosphinoselenoic fluoride, (1,1-dimethylethyl)phenyl- (9CI) (CA INDEX NAME)



L21 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:605857 HCAPLUS
DN 121:205857
ED Entered STN: 29 Oct 1994
TI New general synthesis of organophosphorus P-F compounds via reaction of azolides of phosphorus acids with acyl fluorides: novel route to 2-deoxynucleosidyl phosphorofluoridates and phosphorodifluoridates
AU Dabkowski, Wojciech; Michalski, Jan; Wasiak, Jacek; Cramer, Friedrich
CS Cent. Mol. Macromol. Stud., Pol. Acad. Sci., Lodz, 90-363, Pol.
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1994), (7), 817-20
CODEN: JCPRB4; ISSN: 0300-922X
DT Journal
LA English
CC 33-9 (Carbohydrates)
OS CASREACT 121:205857
GI



AB Tetra- and tri-coordinate P-N-imidazole derivs. and their structural analogs, e.g. I (R = R1), react smoothly with acyl fluorides to give the corresponding P-F compds., e.g. I (R = F), in almost quant. yield. This method has been successfully applied to produce 2-deoxyribonucleosidyl phosphorofluoridates and phosphorodifluoridates.

ST phosphorofluoridate deoxyribonucleoside; nucleoside deoxyribo phosphorofluoridate phosphorodifluoridate; phosphorodifluoridate deoxyribonucleoside; fluorophosphonate deoxyribonucleotide; benzoyl fluoride fluorination nucleotide phosphoroimidazolidate

IT Fluorination
(P-, of nucleotide phosphoroimidazolidate with benzoyl fluoride)

IT Nucleotides, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphoroimidazolidates, P-fluorination of, with benzoyl fluoride)

IT 359-40-0, Oxalyl difluoride 455-32-3, Benzoyl fluoride
RL: RCT (Reactant); RACT (Reactant or reagent)
(P-fluorination of azolides with)

IT 54877-59-7 158619-70-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(P-fluorination of, with acyl fluoride)

IT 13567-99-2 16913-98-7 66778-06-1 71638-08-9 93403-77-1 99450-90-5 107313-21-3 114825-44-4 114825-45-5 157825-64-4 157825-65-5 157825-66-6 157825-67-7 157825-69-9 157825-70-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(P-fluorination of, with benzoyl fluoride)

IT 157825-75-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling of, with thymidine)

IT 69075-29-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling of, with thymidine phosphorodifluoridate)

IT 157825-74-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and P-oxidation of)

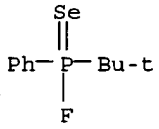
IT 119093-14-0P 157825-71-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and deblocking of)

IT 143415-96-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and phosphodiesterase hydrolysis of)

IT 50-89-5P, Thymidine, preparation 958-09-8P 3802-85-5P 56888-24-5P 143415-97-8P 157825-72-4P 157825-73-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

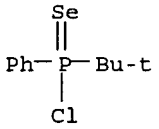
IT 358-74-7P 358-75-8P 403-65-6P 657-97-6P 676-99-3P 753-70-8P

753-72-0P 1135-98-4P 1648-39-1P 20472-53-1P 22382-13-4P
59319-65-2P 76628-09-6P 113680-13-0P **157825-68-8P**
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of, by P-fluorination of azolide with benzoyl fluoride)
IT 76054-81-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phosphoryl triimidazolides)
IT 13184-55-9 16062-77-4 73946-92-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with thymidine derivative)
IT 9025-82-5, Phosphodiesterase
RL: RCT (Reactant); RACT (Reactant or reagent)
(spleen and snake venom, hydrolysis of deoxynucleosidyl phosphorofluoridates in presence of)
IT **157825-68-8P**
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of, by P-fluorination of azolide with benzoyl fluoride)
RN 157825-68-8 HCAPLUS
CN Phosphinoselenoic fluoride, (1,1-dimethylethyl)phenyl- (9CI) (CA INDEX NAME)

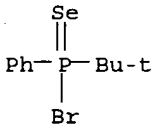


L21 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:517339 HCAPLUS
DN 119:117339
ED Entered STN: 18 Sep 1993
TI Reaction of thiolo- and selenolo esters of phosphorus acids with halogens. Part 5. Halogenolysis of selenium-methyl phosphinoselenoates
AU Krawiecka, B.
CS Cent. Mol. Macromol. Stud., Pol. Acad. Sci., Lodz, 90-363, Pol.
SO Heteroatom Chemistry (1992), 3(4), 385-91
CODEN: HETCE8; ISSN: 1042-7163
DT Journal
LA English
CC 29-7 (Organometallic and Organometalloidal Compounds)
AB The reaction of the title phosphinoselenolates with sulfuryl chloride and halogens was investigated stereochem. and spectroscopically (31P NMR at variable temps.). Differences were observed in the reaction course when compared to the behavior of sulfur analogs towards the same reagents. The good donor character of the selenium atom and the leaving ability of the Se+(R)X group explain well the results of the investigation.
ST phosphinoselenolate prepn halogenation stereochem
IT Stereochemistry
(of halogenation of phosphinoselenolates)
IT Halogenation
(of phosphinoselenolates, stereochem. of)
IT 677-74-7P 4923-85-7P 4923-86-8P 75213-01-3P 75213-02-4P
113502-21-9P 128014-09-5P 146879-96-1P 146879-98-3P 146880-00-4P
146880-01-5P 146880-02-6P 146880-03-7P 146880-04-8P
146880-05-9P 146880-07-1P 146880-08-2P 146880-09-3P
146880-10-6P 146880-12-8P 146880-13-9P 146880-15-1P
146880-16-2P 146880-18-4P 146880-20-8P 146880-21-9P 146880-23-1P
146880-25-3P 146880-27-5P 146880-29-7P 146880-30-0P 146880-31-1P
146880-33-3P 146880-35-5P 146880-37-7P 146880-38-8P 146880-39-9P
146880-40-2P 146880-41-3P 146880-42-4P 146880-43-5P 146880-45-7P
146894-86-2P 146894-88-4P 146894-89-5P 146913-58-8P 146925-63-5P
146925-65-7P 146925-66-8P 146925-68-0P 146925-69-1P 146985-64-0P
RL: PRP (Properties); FORM (Formation, nonpreparative); **PREP**

(Preparation)
(formation and NMR of)
IT 72315-74-3P 113502-18-4P 146879-91-6P 146879-92-7P 146879-93-8P
146879-94-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and halogenation of, stereochem. of)
IT 6057-79-0 57956-51-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with benzeneselenyl chloride)
IT 684-19-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(trimethylsilylation of)
IT **146880-01-5P 146880-10-6P**
RL: PRP (Properties); FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation and NMR of)
RN 146880-01-5 HCAPLUS
CN Phosphinoselenoic chloride, (1,1-dimethylethyl)phenyl- (9CI) (CA INDEX NAME)

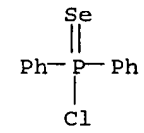


RN 146880-10-6 HCAPLUS
CN Phosphinoselenoic bromide, (1,1-dimethylethyl)phenyl- (9CI) (CA INDEX NAME)



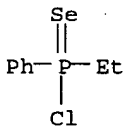
L21 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1979:432094 HCAPLUS
DN 91:32094
ED Entered STN: 12 May 1984
TI Dialkylphosphinic azides. II
AU Schroeder, Horst F.; Mueller, Joachim
CS Fachber. Chem., Philipps-Univ., Marburg, Fed. Rep. Ger.
SO Zeitschrift fuer Anorganische und Allgemeine Chemie (1979), 451, 158-74
CODEN: ZAACAB; ISSN: 0044-2313
DT Journal
LA German
CC 78-8 (Inorganic Chemicals and Reactions)
OS CASREACT 91:32094
AB R2PXN3 (X = O, S, Se; R = Ph, Et, Me, CD3) were prepared and characterized by vibrational, NMR, and mass spectra. The spectra are discussed in relation to the those of [Me2PS]2 and R2PXCl.
ST phosphinic azide; Raman phosphinic azide; IR phosphinic azide; NMR phosphinic azide; mass spectra phosphinic azide; selenophosphinic azide; thiophosphinic azide
IT Infrared spectra
Mass spectra
Nuclear magnetic resonance
Raman spectra
(of phosphinic azides)

IT 3676-97-9P 59012-39-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and NMR and vibrational spectra of)
IT **55249-23-5P** 61509-77-1P
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**
(preparation and NMR of)
IT 70442-86-3P 70629-41-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and mass and NMR spectra of)
IT 4129-17-3P 4129-20-8P 70629-42-4P 70629-43-5P 70629-44-6P
70629-45-7P 70629-46-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and mass, NMR and vibrational spectra of)
IT 70629-47-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT **55249-23-5P**
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**
(preparation and NMR of)
RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)

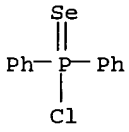


L21 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1979:137923 HCAPLUS
DN 90:137923
ED Entered STN: 12 May 1984
TI Synthesis of arylselenophosphinic acid derivatives and their properties
AU Bayandina, E. V.; Nuretdinov, I. A.; Nurmukhamedova, L. V.
CS Inst. Org. Fiz. Khim. im. Arbuzova, Kazan, USSR
SO Zhurnal Obshchei Khimii (1978), 48(12), 2673-7
CODEN: ZOKHA4; ISSN: 0044-460X
DT Journal
LA Russian
CC 29-7 (Organometallic and Organometalloidal Compounds)
AB PhRP(Se)R2 (R = Ph, Et; R1 = OMe, OEt, OPr, OBu, OCH2CH:CH2, NMe2, NHPh, SEt, Cl) were prepared in 62.7-95% yields. Thus, heating PhRPCl with Se at .apprx.120° gave PhRP(Se)Cl, which on treatment with EtSH gave PhRP(Se)SEt.
ST selenophosphinic acid deriv; phosphinic acid seleno deriv
IT **35400-21-6P 55249-23-5P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(preparation and reactions of)
IT 20180-11-4P 23486-86-4P 39181-19-6P 65438-85-9P 69741-72-6P
69741-73-7P 69741-74-8P 69741-75-9P 69741-76-0P 69741-77-1P
69741-78-2P 69741-79-3P 69741-80-6P 69761-90-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 1079-66-9 6840-01-3 15849-83-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with selenium)
IT **35400-21-6P 55249-23-5P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(preparation and reactions of)

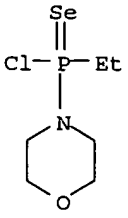
RN 35400-21-6 HCAPLUS
CN Phosphinoselenoic chloride, ethylphenyl- (9CI) (CA INDEX NAME)



RN 55249-23-5 HCAPLUS
CN Phosphinoselenoic chloride, diphenyl- (7CI, 9CI) (CA INDEX NAME)



L21 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1969:512348 HCAPLUS
DN 71:112348
ED Entered STN: 12 May 1984
TI Amidoselenophosphorus acid monochlorides and their properties
AU Nuretdinov, I. A.; Grechkin, N. P.; Buina, N. A.; Nikonorova, L. K.
CS Inst. Org. Fiz. Khim. im. Arbuzova, Kazan, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1969), (7), 1535-9
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
CC 23 (Aliphatic Compounds)
AB Heating 23 g. (Et2N)2PCl with 8.63 g. powdered Se at 120° 10 min., then briefly to 130°, gave (Et2N)2PSeCl, b0·5 97°, d20 1.2558, n20D 1.5290. Similarly were prepared 64% (Me2N)2PSeCl, b0·1 69°, 1.4114, 1.5508; EtOP(Se)(NEt2)Cl, 71%, b0·1 70-1°, 1.3114, 1.5075; BuO analog, 68%, b0·08 74°, 1.2565, 1.5048; PhO analog, 63.6%, b0·1 123-5°, 1.3707, 1.5660; p-MeC6H4O analog, 64%, b0·07 121-2°, 1.3390, 1.5620, EtP(Se)RCl (R = morpholino), 73%, b0·2 117-18°, 1.5054, 1.5778; PhP(Se)(NEt2)Cl, m. 42°, 60%. Ir spectral curves were shown. The chlorides treated with ROH and Et3N gave the expected esters; iso-BuOP(Se)(OEt)NEt2, b0·1 74-5°, 1.1630, 1.4820; (Et2N)2P(Se)OCH2CH:CH2, b0·05 82-3°, 1.1619, 1.5102. Reacting the appropriate chloride with morpholine in C6H6 gave Et2NP(Se)(OPh)R (R = morpholino), m. 61-2°.
ST selenium phosphorus compds org; phosphorus selenium amides; amides phosphorus selenium
IT 25408-76-8P 25408-77-9P 25408-78-0P 25408-79-1P 25408-80-4P
25408-81-5P **25408-82-6P** 25408-83-7P
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)
IT **25408-82-6P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of)
RN 25408-82-6 HCAPLUS
CN Phosphinoselenoic chloride, ethylmorpholino- (8CI) (CA INDEX NAME)



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L10  ANSWER 1 OF 1  HCAOLD  COPYRIGHT 2005 ACS on STN
AN   CA58:4063e  CAOLD
TI   pssage effects for electron paramagnetic resonance lines with
     inhomogeneous broadening and with use of high-frequency modulation of
     magnetic field
AU   Bugai, A. A.
IT    597-51-3   1015-37-8   1017-98-7   1707-00-2   2404-55-9   3084-50-2
     3878-44-2   5958-59-8  13639-72-0  13639-74-2  14684-35-6  15367-52-9
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